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HORTICULTURE

America's Authentic Garden Magazine

Rhode Island Red

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The newest introduction from the great family of Brownell Sub-Zero Roses. Noted for its vigor, growing as tall as Hardy Climbers and blooming as freely as Hybrid Teas, plus being extremely fragrant. The Rhode Island Red will add distinctive charm to your garden. Be among the first to have this fabulous new sensation.

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HORTICULTURE

America's Authentic Garden Magazine

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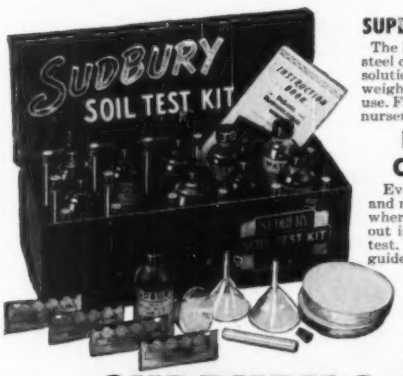

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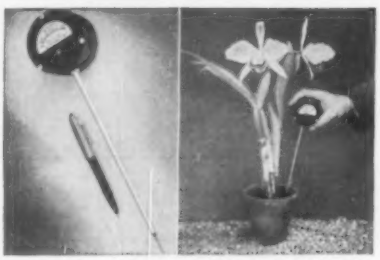

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581

latest in mulches—

BLACK PLASTIC

J. VERNON SHEAP, Lansing, Michigan

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The next year tomatoes were planted

See page 91

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	6 to 8 ft.	22.50	175.00
	8 to 10 ft.	30.00	250.00
POPLAR (Lombardy)	5 to 6 ft.	8.50	65.00
Balleana	4 to 5 ft.	17.00	150.00
QUERCUS (Oak) coccinea (Scarlet Oak)	4 to 6 ft.	25.00	180.00
palustris (Pin Oak)	4 to 5 ft.	30.00	250.00
borealis (rubra) Red Oak	4 to 5 ft.	25.00	180.00
SALIX (Willow) Babylonica (Weeping)	4 to 5 ft.	12.50	110.00
Wisconsin (Hardy Wpg.)	4 to 5 ft.	12.50	110.00
Golden Weeping (Niobe)	4 to 5 ft.	12.50	110.00
SORBUS (Mountain Ash)	4 to 5 ft.	20.00	190.00
TILIA (American Linden)	4 to 5 ft.	18.00	145.00
ULMUS (American Elm)	5 to 6 ft.	18.00	150.00
pumila (Siberian)	4 to 5 ft.	15.00	130.00

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or send 25¢ (50¢ W. of Rockies)

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A neat, sturdy creeping plant that stays green all winter. Blue flowers in May. Resists insects, disease and drought. Our big heavy clumps with 12 or more stems can be planted 2 ft. apart on level; 1½ ft. on slopes. You cover big areas for little money.

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2-year grafts	5.00
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1 to 1½ feet (5" pot)	3.50
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18 to 24 inches	4.40
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These four aristocrats of American Flowering Evergreens will give you gorgeous bloom from May through July. Our stock is grown and shipped from the mountains of North Carolina where cold winters make them hardy. Carefully dug and packed. Easy to plant. Like acid soil, moisture and part shade. Never fertilize or cultivate. We ship tens of thousands every year.

Sturdy Plants — 12 in. high	*per 25*	*per 100*
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CAROLINA, pink in May	16.00	58.00
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These are bushy 4 to 6 stem plants, 2 years older. Some blooms this year. Balled and burlapped.

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1½ to 2 ft. high. Most are already budded for bloom this year. Balled and burlapped.

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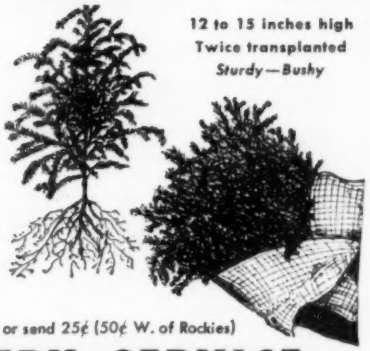

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Sturdy—Bushy

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LETTERS -to the Editor

Sub-Zero Rhododendrons

Dear Editor—As a grower of rhododendrons in the northern Adirondacks I should like to comment on C. P. Holway's article dealing with broadleaf evergreens in a northern area. Many winters my rhododendrons have endured temperatures of 30 degrees below zero.

The only point on which I differ with Mr. Holway is summer sun. Where wilting occurs the basic trouble is weevils attacking the root structure. A heavy application of DDT produced dramatic recovery. I now use bait instead of spray. Both maximum and catawba rhododendrons are benefited by exposure to summer sun.

JOHN B. TREVOR, JR.
New York, N. Y.

Squash Winter Storage

Dear Editor—Many persons do not realize that squash and pumpkins require different storage conditions from most vegetables. They should be kept warm and dry, such as the kitchen cupboard where the dry room temperature is ideal. They may be stored safely up to 80° and will not shrivel or dry out. The seeds are nutritious and the pulp is high in vitamin A.

MRS. K. NEIL,
Port Stanley, Ont., Can.

Editor's Note—Leonard Wickenden recommends curing squash, sweet potatoes and pumpkins at 80° for two weeks, then storing them at 60° in a dry atmosphere.

Uses for Sunflower Seed

Dear Editor—I raise prize winning sunflowers by selecting the largest seeds from single floret heads each year. As you will see from the photograph I had to saw these down like trees. I use sunflower seeds in several ways: 1, largest saved for next year's planting, 2, for birds, poultry and parrots, 3, for seed-art patterns, 4, to roast, salt and eat, 5, in stews and broths, 6, in children's rattles and beanbags and 7, for seed-sprout science lessons in school.

MISS RUTH K. STROH
Cockeysville, Md.

See page 107

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We ship only 2-year-old top quality No. 1 bushes, well formed with marvelous roots. All freshly dug in prime condition.

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HAVE MORE FUN IN YOUR 1959 GARDEN . . .

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FERTL-CUBES PRE-PLANTS

Giant Tomatoes Lovely Petunias

All You Do Is Water Them and Success Is Guaranteed

Pre-Plants are Fertl-Cubes Seedling Starters with selected W. Atlee Burpee F_1 hybrid seeds pre-planted, ready to grow when watered. Introduced by Fertl in 1958, Pre-Plants were bought by the thousands by enthusiastic gardeners. This year we offer 4 selected Pre-Plants (*2 more than last year*) planted with choice F_1 hybrid. W. Atlee Burpee Seeds.

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For the vegetable gardener who wants tomatoes as early as possible, these round, red "Big Earlies" ripen 16-20 days earlier than BIG BOY®, our other tomato Pre-Plant. "Big Early" averages over 7.6 ounces, some grow as big as 1 lb. They're meaty, with mouth-watering flavor, and feature very high yield. Combine them with BIG BOY® for the longest possible season of ripe premium tomatoes.

BIG BOY® TOMATOES

Very popular. The largest of the Burpee hybrid tomatoes. Many weigh 1 lb. or more, some 2 lbs. and over. Ready in 78 days, at its peak in mid-season. Also produces large fruits late in season when most varieties decline in yield and size.

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A big favorite last year. Gives you flowers 4½ to 5 inches across, mid-salmon colored, on plants that grow 1½ feet high. An unusual "conversation piece" color among experienced petunia lovers.

ALLDOUBLE ALLWHITE PETUNIAS

A rare petunia of breathtaking beauty, unique color and high quality. The purest of white, without the faintest tinge of any color, and so abundantly petalled, they resemble carnations—but carnations 4 inches in diameter. Exquisite double flowers of gleaming white, beautifully shaped, deeply fringed, on strong, vigorous plants that grow 2 feet tall. This Alldouble pure white petunia is a premium flower and will be hard to find. Sorry, not more than 1 order for the 24 or 72 plant package from each customer. We reserve the right to substitute other Pre-Plants of equal value after February 15, 1959, if our allotment of Alldouble Allwhite is gone by that date. Order early.

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Place your Pre-Plants on a flat surface and give them a good soaking with a fog spray. In as little as 4 weeks you are ready to set vigorously growing plants into your garden. No loss or setback from transplanting, no thinning, no wasted seed. This new method of planting gives plants the environment and the push they need for a healthy start.

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Yes, now you can plant any seed with confidence by using Fertl-Cubes Seedling Starters. Seeds germinate in the perfect seed bed, better than any soil. They root in ORGANIC plant food and always have plenty of nourishment. Big, healthy root systems develop. You transplant cube, roots and all, without disturbance. There's no wilt, no setback. You get wonderful results, even with seeds that are hard to grow.

So Simple To Use

The clean, odorless, easy way to plant seed in house or garden. No lost plants due to soil diseases. Nothing left to chance. You can start seeds indoors right now and transplant later without setback. DON'T WAIT. Send today for kit of Fertl-Cubes, including perlite, instruction folder. Realize the joy and satisfaction of growing the finest flowers and biggest vegetables in your neighborhood. Amaze and delight your friends with your 1959 garden. With Fertl-Cubes Seedling Starters, it can be equal to the finest in England.

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3-F Foliar Spray gives home gardeners and commercial growers improved vigor and growth—more foliage area, more blossoms, more fruit. Merely spray the growing plant with a fog of 3-F. It works on the leaf structure to produce MORE CELLS. Use of 3-F will require more root fertilizer to provide the nutrient which the accelerated stem and leaf growth will require, but that's exactly what you want. Accelerated cell production is provided by the metallic trace elements in the formula. Applied to the leaves the Fertl way, these elements are many times more effective than when supplied to the plant through the soil. The addition of GIBREL® in carefully modulated proportions breaks bud dormancy to produce more leaves and blossoms.

A very effective combination, $1.98 buys a complete kit with an 8 oz. polyethylene spray bottle and pump type sprayer and enough 3-F Foliar Formula to make 3 gallons of spray. Use indoors, outdoors—on herbaceous or woody plants, flowers, vegetables, hedges, grass—every green, growing plant. Ideal for wetting down Seedling Starters, watering delicate plants, "fogging-on" garden chemicals, etc.

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I enclose $_____ (cash, check, money order). Please ship postpaid the 1959 FERTL-CUBES products checked below. I must be completely satisfied or you will refund my money.

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- ☐ Guaranteed 72 plant Economy Package—You save over 20%.... 6.98
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- ☐ Guaranteed 72 plant Economy Package—You save over 20%.... 6.98
- ☐ Salmon Alldouble Petunia Fertl-Cubes (Guaranteed 24 plants) 2.98
- ☐ Guaranteed 72 plant Economy Package—You save over 20%— 6.98
- ☐ Allwhite Alldouble Petunia Fertl-Cubes (Guaranteed 24 plants) 3.49
- ☐ Guaranteed 72 plant Economy Package—You save over 20%.... 8.49 (only 1 order of each 24 or 72 plant package of Allwhite to a customer)
- ☐ 3-F Fertl Foliar Formula with Gibrel** (includes special new plastic "Fog Mist" pump-type Spray Bottle). Makes 3 gals. 1.98

☐ **Save an additional 10%! Order an assortment of 3 or more items and deduct 10% from prices listed!**

☐ **I have selected at least $6.95 worth of merchandise. Please send me FREE a 3-F Foliar "Fog Spray" pump bottle including wonder-working 3-F Spray, worth $1.98.**

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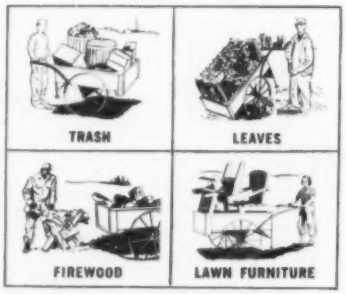

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COMING EVENTS

Feb. 16-19. Richmond, Va. Flower Show School, Course V, Virginia Federation of Garden Clubs, Hotel John Marshall

Feb. 17. Boston. Lecture: Springtime at Mt. Vernon, Robert Fisher, Mass. Horticultural Society

Feb. 18-20. Chicago. Meeting, Midwestern Chapter, National Shade Tree Conference, LaSalle Hotel

Feb. 20. Miami, Fla. Robert H. Montgomery Science Lectures, Fairchild Tropical Garden, Nell Montgomery Garden House

Feb. 20-23. Miami, Fla. International Orchid Show, South Florida Orchid Society, Bayfront Park Auditorium, Biscayne Blvd.

Feb. 21-Mar. 1. West Hempstead, L.I., N.Y. Spring Garden Show, L. I. Nurserymen's Assoc., Island Garden Arena

Feb. 22-24. Denver, Col. Convention American Carnation Society, Hotel Denver

Feb. 24-28. New Orleans, La. Bromeliad Spring Show, Louisiana Bromeliad Soc., Progressive Bank and Trust Co.

Feb. 28-Mar. 8. Arcadia, Calif. Descanso Gardens Camellia Show, Los Angeles County Dept. of Arborea and Botanic Gardens & L.A. Camellia Council, Descanso Gardens

Feb. 28-Apr. 1. Natchez, Miss. Natchez Pilgrimage and Pageant. For further information write: Natchez Pilgrimage, Box 21, Natchez

Mar. 4-6 & 11-13. Williamsburg, Va. Garden Symposium, Colonial Williamsburg

Mar. 6-8. Nashville, Tenn. Orchid Show, Tennessee Capitol Orchid Society, Third National Bank

Mar. 7-8. Orlando, Fla. Orchid Show, Central Florida Orchid Soc., Orlando Garden Center

Mar. 7-14. New York. International Flower Show, Horticultural Society of New York, Coliseum, 59th at Broadway and 8th Ave.

Mar. 8-14. Philadelphia. Spring Flower Show, Pennsylvania Horticultural Society, Commercial Museum

Mar. 10. New York. Meeting, Federated Garden Clubs of New York State, Hotel Astor

Mar. 10-15. Boston. Spring Flower Show, "Symphony of Spring", Massachusetts Horticultural Society, Horticultural Hall and Symphony Hall

NEW BOOKS

Books reviewed on these pages may be ordered from HORTICULTURE's Book Dept., 300 Mass. Avenue, Boston 15, Mass.

Definitive Work on Camellia

CAMELLIA CULTURE *edited by E. C. Tourje. Macmillan Co., New York, N. Y. 484 pp. $11.50*

Camellia Culture is an attempt to assemble in one volume the cultural principles and practices of importance to growers and fanciers everywhere. It is a compendium of information about this intriguing flower skillfully edited by Mr. Tourje. Although almost half of the 55 contributors live in California, the information presented is applicable over much of the country. Collectively the contributors are an impressive group whose knowledge of camellia culture and varieties can scarcely be questioned. The vast amount of literature cited in addition to the mass of factual information presented, makes this a definitive work.

Truck Farming

SUCCESSFUL TRUCK FARMING *by Gerald J. Stout. Macmillan Co., New York, N. Y. 270 pp. $6.25*

Professor Stout presents a new approach to farm crop production, emphasizing the relationships of crops, soil and climate to market factors. It indicates the trend toward basic studies of food crop production that can be applied to conditions anywhere in the country. This book through its evaluation of such made factors as mechanization and government regulation, helps take the uncertainties out of truck farming.

Florida Fruits

FRUITS FOR SOUTHERN FLORIDA *by David Sturrok. Southeastern Printing, Stuart, Fla. 186 pp. $4.*

Excellent for the gardener or garden-oriented visitor in semi-tropical zones, the book lists 120 usable fruits and discusses their values as ornamental and crop plants. Cultural advice is brief and factual. Four maps and 21 drawings are helpful additions to the text.

Everything About Chrysanthemums

ENCYCLOPEDIA OF CHRYSANTHEMUMS *by Monica Bennett. Pitman Publishing Co., New York, N. Y., 194 pp. $5.95.*

The book is everything it claims to be—an encyclopedia of chrysanthemums. It is directed primarily to beginners in this very popular field.

The Pruning Story

PRUNING HANDBOOK. *Brooklyn Botanic Garden, Brooklyn, New York. 80 pp. $1.*

Nothing is lacking for full understanding of pruning in this pamphlet type book. 120 illustrations are featured.

Wayside Gardens

RHUS CONTINUS

Finest new purple-black SMOKE TREE Notcutt Variety

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It is not at all surprising that Wayside's wonderful catalog is the overwhelming choice of gardeners everywhere. It is a rare masterpiece containing all the things that make a garden catalog wonderful. Certainly it has no equal insofar as beauty, wealth of selection and unbeatable quality are concerned. In its mammoth 244 pages, you will find everything for Spring planting . . . the most remarkable selection of worthwhile, dependable garden subjects ever offered. Over 1800 hardy *"Pedigreed"* plants, new flowering shrubs, rare bulbs, trees, exotic lilies and prize roses.

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New FLORIBUNDA *Allgold*

Exquisite flowers of the deepest, clearest gold will brighten your garden come rain or shine. In all kinds of weather, these beautiful firm blooms will retain their full, vibrant yellow until the petals drop. Experienced growers all over the world rate ALLGOLD tops for stability of color, freedom of flower and health of growth. Everyone agrees that this new floribunda is superior in every respect.

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FAIRY. Exquisite light lavender of good form	1.65	11.50
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STARTLING. Dainty buff and pink, throat feathered red	1.55	10.50
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(Special list of 40 Miniature Glad varieties and other collection offers—free on request)

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THE CONARD-PYLE CO.—OUR 62nd YEAR

READERS' *Questions Answered*

When is the proper time to prune a chaste tree and how is it done?

Chaste tree or shrub (Vitex agnus-castus) blooms on the current year's wood so it may be pruned anytime after flowering ends. It is normally better, especially in the north, to do the pruning very early in the spring before growth starts. At that time, any wood that died during the winter can also be cut out.

When should an asparagus bed be fertilized and how?

For best results two applications of commercial fertilizer plus manure should be given the asparagus bed. Apply 10 pounds of a 5-10-5 fertilizer to 100 square feet in the spring and again after the cutting season is ended in late June. After the ground freezes in late fall, cut the stalks close to the ground and spread a generous application of manure. Then as soon as the soil can be cultivated in the spring, work it in. Asparagus grows best with a soil pH of 6.5. If lime is needed, apply it in fall.

I have some fall asters that I want to move. When should it be done?

Since fall asters flower so late in the season, divide or transplant them in the spring. If moved after flowering they will not have time enough to get established before cold weather arrives. It is essential that they have a well established root system before the ground freezes solid.

What value has lime, in addition to sweetening soil that is acid?

Lime not only neutralizes an acid soil but it renders plant foods available, especially phosphorus and potash. It deflocculates or separates clay colloids and in sandy soils, it binds particles together. It is not a fertilizer except for the small amount of calcium and magnesium the plant uses.

My yellow-wood tree did not bloom this year. Why?

Yellow-woods are notoriously intermittant bloomers. Even in their native habitat they seldom bloom more than every other year. Do not be alarmed by this characteristic. Also do not try to correct it with special fertilizers or sprays because they will not work. However, there should be ample phosphoric acid in the soil.

What azaleas will grow in Michigan?

Among the azaleas that will do well in Michigan, if the soil is high in humus and slightly acid, are calendulacea, nudiflora, rosea, vaseyi, viscosa, and schlippenbachi. Some of the Ghent hybrids might be tried, while the kaempferis are grown successfully around Detroit. None of these are evergreen, except the last named, but they produce superb colors in profusion. Many of the individual flowers are more than two inches across.

I never have success with browallia. I plant the seeds as early as possible but they never bloom until late September. What should I do?

Browallia requires a long season for bloom, so the seed should be started indoors in a sunny window or in the greenhouse. If you cannot do this, perhaps you can buy potted plants to set out early. Grow browallia in sun or partial shade in a sheltered location. In good soil rich in humus, the lovely blue flowers will appear in profusion.

Why is it necessary to cut a tree limb so close to the parent branch?

The reason for a flush cut is to encourage healing of the wound. When a stub is left the tube of cells through which plant food travels becomes a dead end preventing needed nourishment. This causes the inner bark and cambium of the stub to die and encourages decay. With a flush cut the cell tubes of the parent branch can supply all parts of the tissue around the wound with necessary plant food. This stimulates growth of healing tissue.

How early can I get the garden ready for planting?

Of course, soil cannot be ploughed or spaded until the frost is out. Equally important, it should not be worked when wet, especially if it contains clay. Such soil cakes when it dries, making it difficult to handle and unsatisfactory to plant. Start your gardening operations when the soil is sufficiently dry so it does not form a smooth-surfaced mudpie when you squeeze a handful.

I received some tulip bulbs as a gift on my birthday. The ground is so frozen I can't plant them. What should I do with them?

It is important to get them in the ground as soon as possible, so with the first thaw, which will allow holes to be made, put them in. In the meantime, they can probably be saved by storing them in vermiculite or peat in polyethylene bags. Keep the bags in a cool, dark place. Very likely blooms will be poor or absent this year, but they should return to normal in 1960.

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"Uramite" as the major nitrogen source in mixed fertilizers helps make mixtures safer because it won't burn or discolor plants when used according to directions. In addition, you'll find these fertilizers are a better buy because the gradual release rate of "Uramite" provides a continuous, uniform supply of nitrogen.

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1959 COLOR CATALOG NOW AVAILABLE

AMERICAN PASQUEFLOWER
(*Anemone patens*)

NOW, JUST BEFORE THE TURN OF THE SEASON, when we're already picturing the first pale blue pasqueflowers, is a time for planning the framework as well as the contents of the garden. Changes in garden design can be considered and outlined—from minor shifts resulting from lopping off a branch to perfect a tree focal point to altering the whole mood of the garden, going Japanese, for example. Or from selecting the exact plant for the exact garden spot to working a new practical feature, such as a vegetable garden, into the landscape plan. There's still time to experiment with the windowsill's possibilities, too

ALVHILD V. HOLMES, Oxford, Massachusetts

science's search for BLACK BLOSSOMS

WILL THERE ever be a completely black flower? Every year our hybridizers come closer to that goal.

We now have flowers, parts of which appear black—like the falls of some iris. Some daylilies, roses and tulips seem almost black when grown in partial shade, on cloudy days or when they first open. At such times it may be difficult to discern any trace of other coloring in their velvety blackness.

I have always been intrigued by the exotic beauty of new "black" blossoms. In the company of pastels they are very black indeed. Bright colored flowers appear more brilliant by contrast.

Among iris, Black Castle is one of the blackest. Its jet black falls are highlighted by a contrasting orange beard. Black Belle appears to be fashioned from rich black velvet with a garnet infusion, while Black Diamond is a monotone of ebony blue-black with a silken velvet luster. The rich silky blue-black, Black Forest, one of the earliest blacks, has served as the parent of many recent black iris introductions.

Black Hills is a completely indigo-blue-black flower. Even its beard is of the same color. Black Mischief is an early blooming iris of intense near-black, as rich and deep in color as the midnight sky. A satin-finished purple-black is the ruffled Black Taffeta.

Congo with a reddish sheen over a coal black undertone is a large iris on 42-inch stems. Dark Boatman has violet-black standards and velvety blackish falls. An inky dark iris is Deep Black with blackish violet standards and falls of solid jet velvet highlighted by a glowing deep violet beard.

Another early dark iris is Indian Night, a stately seedling of Sable. King's Choice, introduced two years ago, is not black, but a rich, deep midnight blue of leathery texture. Sable, I believe, was the first of all near-black iris to be sold. It is a claret-black with a lustrous sheen and has been widely used as a parent in hybridizing. Sable Night, one of its offspring, is a much sought after violet-black with a claret undertone. Storm Warning is a really large black iris on 36 inch stems. Tabu has large flowers of ebony-blue-black, enhanced by silken overtones.

The largest and tallest of all black iris, Top Hat, measuring nearly seven inches across, is very dark, purple-black. Total Eclipse, a decendent of Black Hills, is nearly as tall and large with a near-black beard. Velvet Dusk, a decendent of Sable has inherited its black-violet tones and rich texture. The 7-inch bowers of Violet Hills, with nearly horizontal falls are violet-black with taffeta-like sheen.

When Mrs. Nesmith introduced Black Satin in 1951, it was heralded as the blackest iris in existence. Even today many select it, not only because of its incredibly dark, satiny blue-black color, but also because it does not fade

See page 97

Black Parrot tulip

it's summer inside
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INSIDE or OUT

FLORENCE KNOCK
Minneapolis, Minnesota

EVERY HOME can be enlivened with cheerful, green foliage. The pickaback plant, *(Tolmiea menziesii)* is a top-of-the-list recommendation. Native of the cool, moist forests of the northwest to Alaska, it can be grown out-of-doors as easily as indoors.

It prefers a soil rich in leafmold, but will thrive in any soil that is not heavy. Coarse sand, vermiculite or peat can be added to any good garden loam to make it friable and provide drainage.

I like to grow tolmiea in fancy pots placed in baskets because of its cascading plantlet runners. The basket is hung where the plants get light from east windows but no direct sunlight. The foliage is always a bright, luscious green.

The pickaback plant is self-propagating, producing plantlets at the tip of the leaf stalk. As the old leaf matures, roots develop from the base of the tiny new plant. With the little plantlets picking a ride, it is easy to appreciate the common names pickaback and youth-on-age.

Most house plants get renewed vigor if planted outdoors for the summer. Tolmiea planted in a sheltered, protected location where the hot sun cannot reach it, will thrive on the dew and rain and the good outdoor air.

My tolmiea spends the summer in a well spaded and enriched soil under plum trees. When rain is lacking, I water it with the garden hose.

By fall these plants are so large I pot up only a few to use in non-sunny locations. Those left outdoors are covered with dry leaves after the ground is frozen, the same as other perennials. The sturdy foliage remains green and crisp all winter. In the spring tolmiea is ready for renewed summer growth with flowers in June. Each 18-inch flower stem holds three or more plantlets, spaced by two inches, and the rest of the stem to the top holds half-inch long, nodding, slender inconspicuous mauve and rose bells. The yellow stamens are prominent. Tolmiea can take wet feet, shade, 20 below zero and still bring forth plantlets and flowers in abundance.

No one knows better than the pot plant enthusiast the value of growing plants indoors which can be left to their own devices out-of-doors. It's not only the difficulty of disposing of large numbers of young plants, but the usefulness of being able to grow a spring garden on winter's windowsill.

Tolmiea also help out as a medium height ground cover for shaded non-traffic areas, such as the house's north side.

GARDEN OF MISS MARY A. SULLIVAN, MARBLEHEAD, MASS.

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superior quality

TUBEROUS ROOTED BEGONIAS

- *American grown bulbs*
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- *Flower all Summer long from May to frost*
- *Colorful leaves are added attraction*
- *Our Superior Quality Bulbs will produce Heavy Strong Plants immediately*
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Place your order now. We will ship early so that you may start the tubers indoors to have the growing plants ready for planting in your garden when danger of frost is past; or, we will ship for outdoor planting in your garden at regular planting time in Spring. Full cultural instructions with each order. Begonias are also ideal for window boxes — or as pot plant specimens for the Patio.

New 1959 Spring Catalog in Color

Double Ruffled Begonias

(New Improved Camellia type)

Flowers are Camellia-shaped. The large flowers are very compact long lasting on the plants as well as when cut. Available in the following colors:

Apricot	Red
Blush	White
Ivory	Yellow
Pink	Mixed Colors

Multiflora Begonias

(Many Flowers)

Short sturdy growing plants that are covered with blooms all summer — flowers are not as large as the other types — but the compact plants make them ideal for edgings for the flower border or in pots. Available in mixture of pastel shades — all colors.

Hanging Basket Begonias

Delightful for piazza and summer house decorations as well as the rockery and window boxes. Often hundreds of blossoms from each bulb: Available in the following colors — all double flowers:

Rose Pink	Dark Red
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Finest Mixture

Any of the above Begonias are priced at:

$3.50 for 5; **$6.50** for 10;
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(Wire Basket with hanger available at **$2.25** each)

Mixture of All Types. This special mixture made up for each individual order will contain Double Ruffled; Rosebud and Picotee types.

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"Serving America's Finest Gardens for Over 45 Years"

REX BEGONIAS are winning increasing numbers of friends, both for the fascination of collecting the many different species and varieties and for their important uses in interior decoration. Propagation ease is another asset of the tribe. In addition to being easily started from ordinary slips, they also can be multiplied by leaf cuttings. Some add foilage color to interesting leaf texture and occasional sprays of dainty blossoms

BERNICE G. BRILMAYER, Bayside, New York

INTERIOR DECORATING

with rex begonias

IN THE LARGE family of begonias there's one group, the "painted leaf" rex begonias, that's truly an interior decorator's dream. The brilliant foliage offers all the colors of the spectrum in many patterns and textures.

There are rex begonias to suit every decorating scheme. Quaint little Baby Rainbow, for example, brightens the Early American scene. Majestic, velvety Black Knight fits in with Regency decor. Mikado and Her Majesty are Oriental in effect. The clean pattern of Merry Christmas is the very essence of modern.

But limitless variety is only one reason for rex begonias. Although their flowers have a water-lily-like fragility and beauty, they're primarily foliage plants, so they don't need to grow in full sunlight. In fact, they're quite happy for some time under artificial light. Their habit of growth is generally compact and symmetrical, with little tendency to become straggly and ugly.

However, rex begonias will reward you only when you supply them with good growing conditions. You can't transport a magnificent rex from a warm, humid, light greenhouse to a dark, dry living room corner and expect its beauty to last. Too soon, the leaves turn brown and dry on the edges, the stems stretch out leggily in search of light; the whole effect will be limp and unhealthy. There's nothing less decorative than a dying plant.

The rexes are tropical plants and demand near-tropical conditions for beauty and health. They need light, fairly high humidity and warmth without drafts, while the soil should be rich in humus and moist.

There are two ways to provide good growing environment. Grow rex begonias where they will have sufficient natural or artificial light, where they will keep warm and where you can increase the humidity. Using a humidifier on the radiator will help. Even better, a layer of gravel or peat in a large jardeniere or tray with water in the bottom, will evaporate up and around the plant above.

A second choice is to grow rex begonias under the ideal conditions of a greenhouse, bringing out a few at a time for display. Plants can take turns coping temporarily with difficult conditions, without noticeably adverse effect. A glassed-in porch or a kitchen window sill, where running water humidifies the air or even artificial lights in your cellar will provide near optimum growing conditions.

There are endless possibilities for using rex begonias in interior decoration. Bank a fireplace with a background of evergreen boughs. In front, a single specimen of a silver or silver-and-green-leaved rex.

Fill a decorative platter or tray with water, set a rex begonia in the center on an upturned custard cup. The reflection doubles the beauty. Or use rex begonia leaves in flower arrangements. Kept in water, they'll produce roots and new plants in three weeks or so.

For permanent display, fit one shelf of a book case or corner cupboard with fluorescent lights. Line shelf with a tray fashioned from heavy aluminum foil, fill tray with moist vermiculite or peat.

Set a gem-like miniature rex inside a large brandy snifter, or clear glass fish bowl. Or brighten a dark corner with a desk or reading lamp. Or bank a fishpond (plastic dishpan) with rexes and ferns, all set on the floor or a low table.

Some suggested varieties—Merry Christmas, geometric bands of holiday red, green, silver. Mikado, plum purple

See page 98

Taffeta-textured rose and violet over silver leaves characterize Rose Marie

Bushy habit and silver-on-green leaves are Miniature Silver Dawn's highlights

Sturdy plants with silver patterns on maroon leaves are Helen Teupel traits

what's new

IN THE GALAXY of perennial newcomers there exists an agreeable balance between flamboyance and tasteful restraint.

Perhaps the dismally wet, cool 1958 season of the east should be briefly noted. Certainly, sunloving plants that thrived during the past year must have had some tolerance of "wet feet". A few perennials introduced in 1958 had so modest a dissemination we include them in this discussion.

Many gardeners dislike the spreading habit of the ajugas or bugles, unless in their role of spreading ground covers. With the introduction of *Ajuga pyramidalis* there will be greater demand, because the clumps become barely 15 inches across, and division need be made only every three to four years. Moreover, the gentian blue flowers of April and May along 15 to 18 inch stems are more showy. Most bugle flowers are half-hidden by leaf axils. Pyramidalis asks only average soil, in sun or shade.

Phlox subulata, the moss phlox of spring, has so many forms that further additions might seem superfluous. Yet, good pale blue offerings have been rare, while truly red varieties were nonexistent. The new Eventide is a topflight blue of dwarfish tendency and slow horizontal growth. Scarlet Flame, a red still largely unknown, has no magenta in its rounded ¾-inch blossoms. Instead, vivid ruby-scarlet petals surround lively vermilion eyes.

Both these dwarf phlox are useful in walls, rock garden niches, borders, or even edgings. Sun and only fair soil is needed, with division every fourth September to forestall deterioration. Annual applications of soil or compost amidst the tangle of stems encourages new rooting.

Heucheras, or coral bells, bow to no garden subject for refined sparkle in bouquet or border. Slim, wiry stems are topped by panicles of bell-like flowers, small but numerous, from June on, if old heads are not allowed to seed. They lighten arrangements, add well-bred intimacy to gardens, and are splendid in groups 12 to 18 inches apart. Delightful mounds of rounded or heart-shaped leaves, often veined or lobed, shine in sun or part shade. The soil needs some humus content, and clumps should be set an inch deep to prevent winter heaving. Divide every four years.

A new American coral bell, Scarlet Sentinel, is a willowy, upright plant of 30 to 36 inches, almost never without blooms. The color is brilliant scarlet, the flower spectacular in size, the foliage lush. Rhapsody, from England, is a stocky 20-inch clump, with rose pink blooms: White Red Spangles, from the same source is a midget of 15 to 18 inches. Here the shading is basically rich crimson, but oddly glistening in effect.

Sometimes, an alert plantsman finds an accidental novelty. Thus, the new achillea Cornation Gold was first observed in an English planting of *A. filipendulina* accidently pollinated by nearby *A. clypeolata.* This cross produces less rampaging growth, but the blooming season overlaps that of both parents by weeks. Soft gray-green leaves are not the least of its attractions.

Among the versatile sedums or stonecrops is another novelty, *Sedum maximum atropurpurea.* It will probably survive longer as the mahogany plant, long popular in England, but never before available here.

An ebony black stem 2½ feet tall has ornate, thickly lanceolate leaves of deep mahogany red, overcast with bronzy purple. In late July sizeable flower cymes of pale creamy rose appear, becoming gradually brownish. Full sun, occasional division and average soil with a little humus added, seem to be the sole requirements.

Garden phlox, of the large-headed *P. paniculata* tribe when properly nurtured show their true majesty but if neglected, they can degenerate rapidly.

Rich, fairly moist soil in sun or flickering shade, at least two feet of elbow room and occasional all-purpose spray or dust are in order. Divide clumps every four years.

Fine new English phlox include Fairy's Petticoat, a gigantic pastel pink, faintly hazed mulberry, with darker eyes, also the genuine Lilac Time (not the spurious American Starlight so renamed). The true form has heads of huge, placidly lilac blossoms with no vagrant markings. Holyrood is an 18 to 20 inch dwarf, whose large rounded trusses are flaming scarlet-tangerine.

Rudbeckia laciniata Golden Glow, that weedy eight-foot plant, common to much of America, has only splendid double yellow flowers to justify its existence. It spreads rapidly and is difficult to control. The new Goldquelle, with the same 2½-inch blossom of bright gold from late August grows only 2½ to 3 feet tall, and increases slowly.

Among the new All-America chrysanthemum selections for 1959, include

FOR PERENNIAL BORDERS

RODERICK W. CUMMING, Bristol, Connecticut

Girl Friend, a lovely coral-dawn pink double nearly four inches across. It flowers heavily by September 15, on supple 30-inch stems, and is without competition at that early date. Flair, a cushion, features non-fading blossoms of elegant lavender. A rich red 15-inch cushion is Crimson Lady, with 2½-inch blossoms, which like Flair appear by October 1.

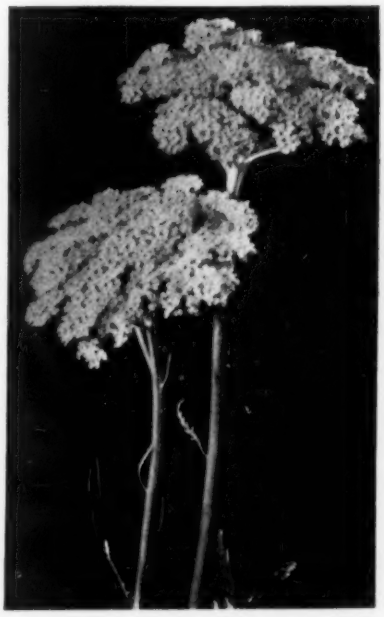
These mums require a well-drained, sunny spot with good humus content, perhaps with 5-10-10 also added. If shoots are pinched at the tips after each six to eight inches of growth until late July, stockier, more floriferous clumps result. Cover lightly over winter with three to four inches of hay or straw after the ground is frozen hard. It is usually best to divide clumps every April.

Disbudding enthusiasts will surely want Green Goddess. Easily the greenest mum to date, it becomes a breathtaking six-inch incurve, of informal Japanese effect. Lettuce-green buds become sea green on opening. Even as the final ivory-cream petals swell to perfection, tantalizing chartreuse-green shadings still linger. This one flowers about November 1, in a normal year.

Try some of the new penstemon, including long blooming Firebird or the 12-15 inch, light purple Newberry. Also outstanding among the new introductions is stokesia Blue Moon, with six-inch disks of light lilac on 12-15 inch stems. Spirea Red Sentinal is another headliner.

Key to Illustrations

The season's new crop of perennials includes, left to right at pages top, All America Mum Selections winner Girl Friend, coral-pink, rose flowered *Sedum maximum atropurpurea* and *Rudbeckia laciniata* Goldquelle. At right, Achillea Coronation Gold and at lower left, *Ajuga pyramidalis*.



easy does it with

REX BEGONIAS

1 Cut a healthy leaf from the plant to be reproduced. Trim the stem to 1½ inches and insert it in water in a small glass jar, which supports the leaf. A piece of charcoal will keep the water "sweet". Illustrated is the popular favorite large-leaved rex begonia Peace

2 In three to four weeks, the leaf will produce roots on the stem and a tuft or rosette of new growth at the point where the stem joins the leaf. When the roots are about an inch long, the cutting is ready to be potted

THERE ARE several methods of producing new rex begonias. Commercial growers usually cut each leaf into a number of wedge-shaped pieces, each with a part of a main vein. These are inserted into the rooting medium at a 45° angle and produce new plants from the base.

Another method is to cut the main veins part way through on the underside of the leaf and lay the whole leaf flat on top of the medium. New plants push up from the slit veins.

But the method shown here is easy and sure for the home hobbyist. It is based on the ability of rex begonias to produce new plants with a number of stems at the basal part of the leaves. Although this process produces only one new plant per leaf, almost without fail it is a robust, healthy plant.

An aquarium makes a simple humidifying device for protecting rooting leaves and young plants. Cover the bottom with a generous layer of moist vermiculite, gravel or sand and the top almost entirely with a piece of glass or clear plastic, to hold in humidity. Keep plants away from sun or strong light.

3 Potting mixture is ⅓ sterilized soil, ⅓ peat or humus, ⅓ sand. Insert leaf stem so that the apex rests on the soil's top surface

4 Soon, the tuft or rosette sends up stems and small leaves. Shown is the colorful rex, Oregon Sunset

5 When the new plant is well established, trim the old leaf off. Since all rex begonias are hybrids, they will not come true from seed. Rooting cuttings from leaf or rhizome is the only method of increasing a specific form, hue or strain

H. Allen Lincoln, Whitemarsh, Pennsylvania

soil test for BETTER GRASS

Your Grass Can Be Greener—with the aid of a little chemistry. More than with most plants, success in growing grass is related to the chemistry of the soil.

The best way to know what your turf needs is to test the soil. You can do this yourself with a soil test kit or send a soil sample to your state university or agricultural experiment station. A soil test does several things; first, it tells the acidity of the soil, designated as pH; second, it tells the amount of plant foods which are available; third, it tells the amount of organic or water-holding material it contains.

A soil test report should also tell you how much lime, in the form of ground limestone, should be added to neutralize the soil acidity; how much phosphorus and potash are required to bring these food elements to satisfactory levels; how much organic matter is necessary to produce part of the nitrogen and retain the moisture which a healthy, resilient turf requires; and how much, how often and what kind of fertilizer should be added to maintain these levels.

The most important condition of the soil is its acidity. If it is too acid some plants will not grow. If it is not acid enough, others fail to prosper. Excess acidity reduces the availability of phosphorus and other plant foods by forming compounds unavailable to the plants.

Of the soil samples received at Pennsylvania State University, 38% showed high or very high acidity while 35% showed low phosphorus availability. The higher the acidity the lower the amount of available phosphorus.

Acid soil is caused by such minerals as aluminum and manganese combining with phosphorus and potash. The calcium in the limestone unlocks the phosphorus, potash and other elements beneficial to plant growth.

It has been found that iron also ties up phosphorus when the pH is low. Conversely, in alkaline soils phosphorus ties up iron, thus making both unavailable. This causes iron chlorosis, or starvation, and reduces the levels of both iron and phosphorus.

The ideal range of pH for turf is from pH 6.2 to pH 6.6. Recommendations for turf, therefore, should be based on a pH of about 6.5, instead of the neutral 7.0.

For limestone to be beneficial it must come into contact with the maximum number of soil particles so a thorough mixing of limestone with the soil to the depth of the root zone is important. Limestone spread on the ground will wash into the soil, but this mixing is slow. Once the pH is correct, its level is easily maintained.

A long range experiment in a field which had an original pH of 5.0 was made by dividing it in half with each half treated differently. The first with a pH of 5.0 was treated with one ton of limestone per acre which gave a pH of 5.5. Limestone at the rate of one ton per acre added every four years for more than 20 years maintained the level at pH 5.5. The second half with pH 5.0 was treated with four tons of limestone per acre which gave a pH of 7.0. Limestone at the rate of one ton per acre added every four years thereafter maintained the level at pH 7.0.

The physical structure of the soil may give a clue to the relative amount of limestone that should be added. Coarse, sandy soil will require less limestone to raise the pH than very finely divided soil which is often lacking in organic matter. If it has the appearance of flour or talc, organic matter may be assumed to be low.

To improve the existing topsoil, strip and pile it until it is needed for respreading and fine grading. If, before stripping the topsoil, the amount of limestone necessary to correct the soil acidity is spread on the surface, the stripping, piling and respreading

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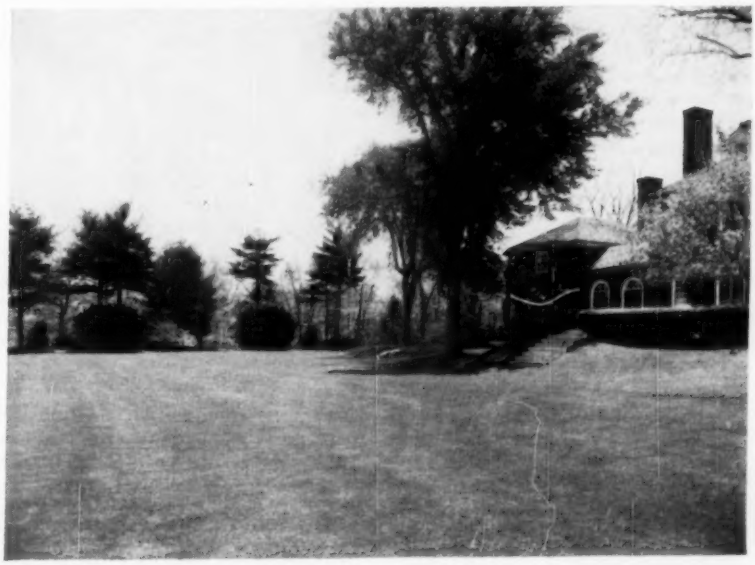

NOW... is the time!

EVERY GARDENER gets an urge to be active out-of-doors as the first warm days of February arrive. Grape vines can be pruned. Fruit trees also. If much spraying lies ahead, some of the dormant applications can be made now, but be sure the temperature is high enough so the danger of a freezing drop before the spray dries, is remote. If spraying can be postponed until the buds begin to swell, the oil application will be more effective even though the dilution is greater.

Try a Sweet Potato Vine

IF YOU WANT something different in foliage plants for the house, try the sweet potato vine. Get a healthy sweet potato or yam that has not been treated with preservative, put it in a hyacinth glass with the lower quarter in water. Set it in a dark place until it sprouts, which takes about ten days, then bring it to a sunny window. Just watch it grow. If sufficient water is kept in the glass, it will grow a foot a week. The vines which become very long can be trained up over the window or door, making a lacy, attractive frame.

Start Spring Work

CHECK ALL tools. Oil and sharpen those that will be benefited. Go over trees on a warm day, removing dead wood and crossing branches. Fruit trees, especially apples, pears, peaches and cherries, should be pruned lightly. Keep the tall growing kinds low enough so picking the fruit is not difficult. Examine apple twigs carefully for the black-brown egg mass of eastern tent caterpillar. Such egg bands about ½ inch long, are most common on new growth. Since each band contains 300 or more eggs, removal will save many leaves.

Start Caladiums and Callas

IF BULBS of caladiums and callas are started this month, they can be counted on to bloom early in the summer. Give caladiums a two inch covering of sand and peat. Keep the growing medium moist and in a temperature between 70 and 80°. Calla lilies will do well in a similar mixture but they should be kept cooler for good results. To have summer bloom on achimenes, plant the small tubers one inch deep in a sand-peat mixture and keep them at 60 to 70°. Transplant in a humusy soil mixture as soon as growth starts.

Examine Cane Fruits

USUALLY RASPBERRIES and blackberries require some pruning at this time. Old canes, if not previously cut out, should now be removed. Cut new canes of raspberries back to five feet. Pull up all suckers that have sprung up beyond the area allotted to raspberries. Blackberries are particularly difficult to keep in bounds. Do not overlook any widely ranging stoloniferous growths.

Re-use Forced Bulbs

MANY OF THE BULBS forced in pots for winter blooms, such as freesias, tulips, daffodils and hyacinths, are looking bedraggled with their period of beauty over. You should, however, keep them growing until the leaves turn yellow. Put them in an unused part of the house to ripen off. As soon as the foliage begins to yellow, let the pots dry out. When the garden soil is warm enough to receive them, the tulip and hyacinth bulbs can be planted out. The freesias can be forced again but the narcissus bulbs should be discarded.

Give House Plants Attention

HOUSE PLANTS appreciate a weekly spraying to lave off dust. Examine the plants carefully, with a glass if it is handy, to discover aphids, scale insects or mealy bugs. Even red spiders find house plants to their liking and being tiny, they are seldom seen with the naked eye. Sometimes soapy water will rid the leaves of the pests. In other cases, especially if mealy bugs or spider mites are present, malathion should be used. Spray when it is possible to open the windows or carry on the operation out of doors.

Malathion for Tough Pests

THE FUMES of malathion are most disagreeable. Some persons become quite ill if the chemical is used in the house. As an alternative strict adherence to a program of weekly syringing will eventually discourage even the hardiest pest. Be sure to use strong soap suds, not a detergent. Many pests seem to thrive on a periodic dousing with a detergent.

PROF. TAKUMA TONO, Tokyo Japan

LANDSCAPING a japanese approach

Even a Japanese garden in contemporary style includes the classical features: rocks, dry-up water and lanterns

THE ORIENTAL INFLUENCE is evident in modern American living, both in garden design and interior decoration.

However, when I visited the gardens of Japan last year, I realized how little we Westerners really understand the principles of their design. My friend, Professor Takuma Tono, is one of Japan's leading landscape architects. His explanation of the Japanese garden provided me with a whole new outlook which can, in turn, be applied to interpreting the Oriental manner here.

The enviable ability of the Japanese to give depth and a feeling of size within a small area is a quality we could copy to advantage, for U. S. gardens are rapidly diminishing in size as suburbs expand.

It is interesting to note that while we are copying the Japanese, they are quickly adopting Western ways and learning to live in their gardens as we do ours. However, in these hectic times it is hoped that the Japanese will retain the goal of a garden as a place for repose and meditation and quiet—Mary Noble

• • •

TO THE JAPANESE mind the garden is not a place for the cultivation of trees and flowering plants, but a representation of a number of favorite views of mountains and water. The composition is so unified that the scenes give rest and encouragement to the weary mind.

The Japanese garden provides secluded leisure, rest, repose, meditation and sentimental pleasure. It is sometimes a place for social functions as well as an ornamental setting for the house. But the use of the garden for children's playground, a swimming pool or barbecue pit—even for flower beds—never occurred to us until the past few years.

Physical features are not so important to the Japanese garden as the mental and spiritual aspects. Reverence for Nature is strongly expressed in the Japanese art of landscape design. Its aim is to induce relaxation through the arrangement of the garden in such a natural manner that an unconscious spiritual transpiration results from the concern of daily affairs to the appreciation of natural beauty.

It is almost impossible to appreciate fully the true representation of the landscape garden from observation alone without a knowledge of the cultural or sacred functions which preceded it. The Japanese, with memories of favorite scenic spots, recreate these impressions in their gardens. Numerous scenic settings have been introduced such as Matsu-shima, Amano-hashidati, Miyajima, and the eight views along Lake Biwa.

To bring such extensive scenery into small private, home gardens seems impossible. It took several hundred years to devise methods and to develop talented designers who realized this ideal through symbolization, simplification, condensed scenery and borrowed scenery.

SYMBOLIC METHOD—While the Japanese garden is a representation of a natural landscape, it is impossible to compress the same size view into a small area. The solution is termed the symbolic method by which trees and shrubs are clipped and carved into such shapes as mountains, waterfalls and boats. Moss-covered stones or stone lanterns are invaluable treasures because they suggest age.

Water is one of the most important features in Japanese gardens. Often city water is expensive or is limited for garden use. So-called "dry-up water" scenery solves this problem and at the same time provides easy garden maintenance. Whenever you see white sand

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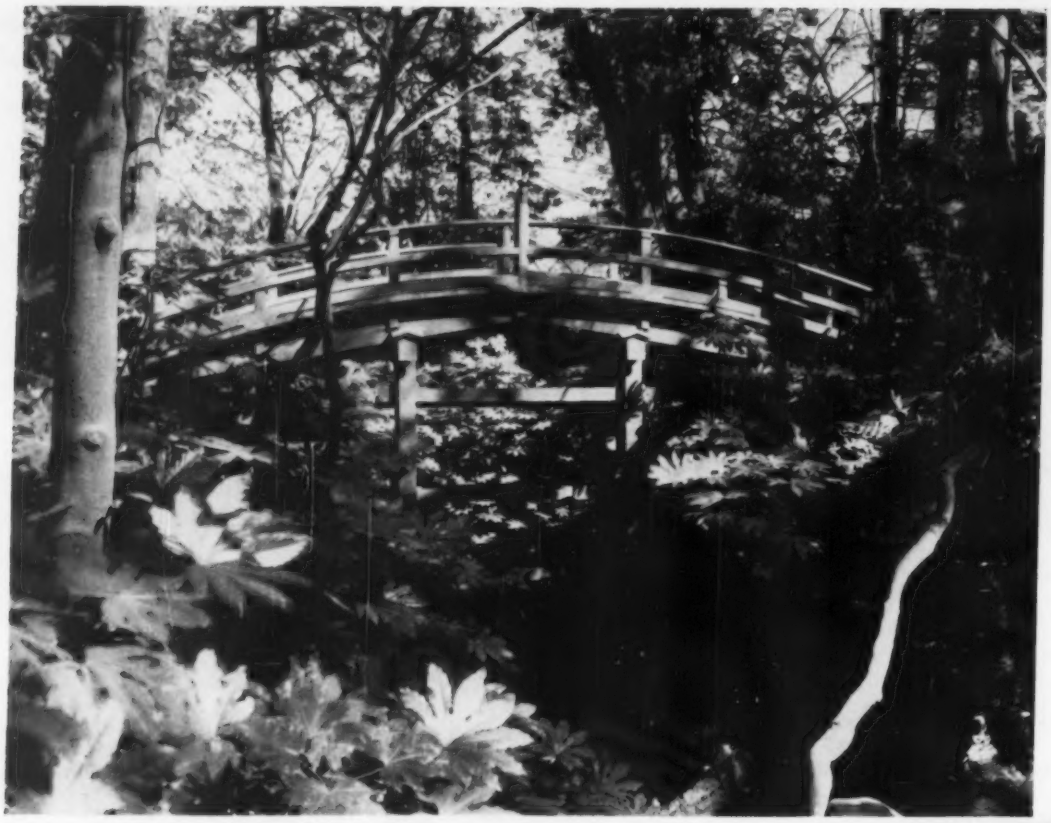
Noting the growing interest in Japanese landscape design in this country, the editors of HORTICULTURE felt it would be wise to go to a Japanese for an article on this subject. In Prof. Takuma Tono, a graduate of Cornell University and Hokkaida University, Japan, in landscape architecture and one of Japan's leading landscape architects and teachers of landscape architecture, at Tokyo Agricultural University, they felt they had found the ideal person to do the article. The introduction is by garden writer Mary Noble, of Jacksonville, Florida.



A famous garden bridge in Kyoto from which maples are viewed, at left

The
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An example of condensed scenery. The mountain scenery of Daisen is reproduced in miniature by the creation of artificial "mountains". Note bridge in foreground over sand dry-up water

a japanese perspective on LANDSCAPING

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condensed scenery
borrowed scenery
simplification
symbolism

This gardener utilizes the wooded property of his neighbor as borrowed scenery background for his own small garden of clipped shrubs. Note mats for sitting at tea

The technique of simplification. One well-shaped pine tree represents the famous eight views along Lake Biwa. The Japanese can imagine the other seven while viewing one, at left

DOROTHY WAUGH, New York, New York

WHAT PLANTS flourish in the heart of a city?

I live half way between the Empire State Building and Grand Central Terminal. Although there are in my immediate neighborhood no such beautiful gardens as Horticulture shows us each month, it is nevertheless remarkable that so many growing things exist, even luxuriate, in this ultra-walled, ultra-paved setting.

When I walk a few blocks east to a supermarket or a few blocks south to Altman's, I see many plants in the narrow strips of soil which have escaped cement and stone. Window boxes, or tubs set on paved areas provide occasional spindling or sturdy specimens. The enjoyable new practice of incorporating small gardens in the lobbies of glass-fronted buildings or in scraps of buttressed soil along facades, enriches the variety. From the windows of my apartment I look up at a penthouse elm high above me.

Besides these tenants of improvised garden plots, many plants actually send their roots directly down into the few exposed patches of Mother Earth. These give the best check of all on the kinds which adapt themselves willingly to city conditions.

English Ivy

The most extensive and most effective areas of green in mid-Manhattan are provided by English ivy (*Hedera helix*) and privet (usually *Ligustrum amurense*).

English ivy is green the year around, of course. It thrives exuberantly on the shady sides of the streets as well as where an occasional hour or two of sun reaches the soil. It prospers in window boxes, draping downward to cover the wood and to extend the area of foliage. It scrambles happily over small areas of soil beside basement steps, as an edging or ground cover.

Privet in natural or sheared state provides low hedges or higher screens, or, most frequently of all, shaped specimens. On East Thirty-seventh Street there is a 15-foot-wide gap between two buildings which is filled to overlapping by three very old privets 15-18 feet high, trunks close together. They give the impression of a single spreading tree with close packed foliage. The thickly twigged growth of privet, especially sheared privet, gives this plant a substantial winter effect—and, of course, when snow falls whiteness collects in the intermeshed network to a lavish and highly attractive degree.

Besides English ivy and privet, the plants which catch the eye of the casual passerby in midtown Manhattan are the plane trees (*Platanus acerifolia*), many of which were planted 20 years or so ago along a number of the narrower side streets. There are also a few specimens on Park Avenue, where sun is more generously available and air possibly slightly less stagnant and polluted. One stunted and ragged cottonwood struggles for existance as a street tree near me but there is hardly any other exception to the standard and more successful plane tree.

Where trees have sprung up of their own accord, on vacant lots and in dark and narrow remnants of raw land, they are almost without exception ailanthus. These thrust in and persist no matter how unfavorable the conditions. Where soil and sun offer even slight encouragement, ailanthus, with its jagged, mobile foliage crowds in profuse vigor, giving a tropical effect.

There is on East Thirty-seventh Street an eight-by-ten dooryard where one maidenhair tree (*Ginkgo biloba*) is growing in normal fashion, undisturbed by the strain of city life. Under it five *Acanthopanax sieboldianus* cover the meager patch of soil surrounded by paving. Within the same miniature dooryard, across the basement steps from the ginkgo, an andromeda (*Pieris floribunda*) seems equally satisfied with its location. This scrap of garden is quite unlike anything else in the entire area for varieties, yet all act entirely at home.

Andromeda and Japanese holly (*Ilex crenata*) seem to adjust to city demands more readily than other broad-leaved evergreens, with euonymous occasionally succeeding. Rhododendrons survive for a few years but in desultory fashion.

I have seen no conifers growing satisfactorily in the city's center. Japanese yew (*Taxus cuspidata*) does better than others, but is not at ease for long. Some hostelries use arborvitae in tubs as specimens, replacing them each spring, but the foliage soon deteriorates.

Herbaceous plants appear chiefly in pots, tubs and boxes: geraniums, begonias, petunias, portulaca, sedum, snow-on-the-mountain (*Euphorbia marginata*), and (probably in a country-born person's narrow and paved city dooryard) potted roses, snapdragons, chrysanthemums, and tomato plants (with no sign of fruit). Wandering Jew (*Tradescantia fluminensis*) grasps a foothold in many odd corners and grows as nonchalantly as witchgrass, with which it often neighbors in unkempt confusion.

Morning Glories, Too

For vines, morning glory and knotweed (*Polygonum cuspidatum*) seem to adapt themselves most readily, after English ivy, which outdistances all others.

Besides these scant shreds of greenery, there is, within this immured neighborhood, one real garden. This was J. Pierpont Morgan's and now belongs to the museum which was his, on Thirty-sixth Street at Madison Avenue. Its central panel of turf is surrounded by strips of planting where a few flowering trees back interesting shrubs, the beds edged at the front by crocuses, tulips, narcissus and hyacinths which offer a first, most welcome touch of spring to thousands of passers-by.

The trees in this garden are crabapples, hawthorn (both English and American), sorrel tree (*Oxydendrum arboreum*), *Magnolia soulangeana*

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HEDWIG MICHEL, Estero, Florida

you grew them INDOORS

INTEREST IN HOUSE PLANTS is widespread, no matter what the region, for wherever people settle and start breaking ground, house plants are with them. Most of the indoor gardens consist of exotics, of plants from tropical countries, in northern homes as well as in the South. To mention only a very few: sansevierias hail from South Africa, *Monstera deliciosa* from Mexico, philodendrons from Brazil, Ecuador and Venezuela, orchids from about every tropical country around the globe. All have immigrated and established homes away from their native haunts.

How pot plants common in the North fare outside in Florida gardens is a theme to fill volumes. It is partly a story of Nature's abundance in form and growth, her determining influence through sun and air and soil and the general weather conditions governing the plants in quest, for not everybody can have them in a conservatory that simulates tropical atmosphere. In short, pot plants common in the North set out in Florida gardens soon outgrow any containers, no matter how sturdily built they may be. Out of doors the plants not only grow to become giants with bloom and fruit, often they also change in appearance, benefited by less disturbing temperatures and by continued growth throughout the year.

Where, for instance, *Ficus repens* (of the Moraceae family), in the North does not outgrow infant size, this little flat climber put on a wall or tree stump in the South soon will cover its support and climb and trail until mature to ripen its fruit.

From then on another feature of surprise appears, for this wild fig presents one of the convincing evidences of Nature's multitudinous forms. No longer requiring support, the mature branches with glossy leaves about four times the size of the infant foliage, seeking their freedom produce dangling branches carrying greenish-gray non-edible leathery figs. They greatly differ from the young vining branches that tightly hold on to whatever support they may find.

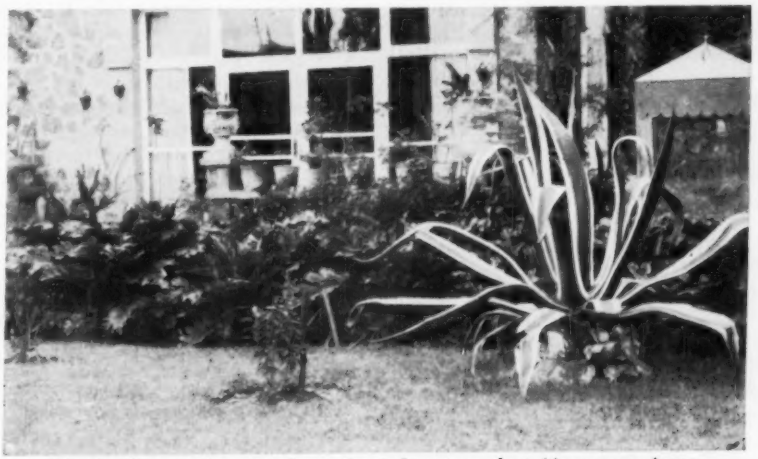
Another revelation of the invigorating power of Florida gardens is observed in the huge rubber tree, *Ficus elastica* also of the Moraceae family from the East Indies. Beloved of our grandmothers, this rubber tree presently undergoes a renaissance as a conservatory plant of rank in northern homes. What a difference between this ornamental of the northern drawing-rooms and the immense shade tree of the open spaces of the South!

Huge and towering as they are, these wide-spreading rubber trees of Florida gardens have not achieved "the size of their relatives in native India. There the area of a single banyan tree has provided shelter for public gatherings of large congregations for centuries, and yet the tree has not stopped spreading!

What members of the Pinaceae family achieve in the outdoor gardens of the South is another surprise. Most everybody at one time has nursed the dainty house plant *Araucaria excelsa,* the ornamental miniature pine with the bluish-green needles on symmetrically tiered branches. A relative, the monkey puzzle tree of Queensland, Australia, the *Araucaria bidwilli,* introduced to Florida, grows to 60 feet in height, bearing cones 6½ pounds in weight, nine inches high, eight inches in diameter and 25 inches in circumference. It is a thrilling sight. Perhaps the *Araucaria excelsa,* even though grown outdoors, will not reach the size of *A. Bidwilli,* but watching any of these beautiful pines mature in your own garden is worth living South.

Other popular house plants in modern indoor gardening, most striking in the giant-dwarf motif of North and South plantings, are the succulents. Never to be forgotten is a railway journey from Mexico City to Laredo, Texas, during which an enthusiastic cactophile hardly could restrain himself from attempting to stop the train in view of the giant barrel cactus, organ cactus and numerous others of these fantastic exotics growing by the railside.

"I'll never get those specimens I've collected to grow comparatively large in my northern home," he wailed, pointing to his suitcase. But years later, most of his imports had not only outgrown the pots, some had to be given to botanical gardens where the glasshouses could comfortably accommodate them. Twice each year repotting and renewing soil and nutriment, placing all the pots in an outdoor bed from the time the soil warms, until cool weather did the trick.



The familiar pot favorite, the variegated century plant *(Agave americana marginata)*, in the Mexico City garden of the famous artist Rufino Tamayo

season's new vegetables offer FLAVOR

GISELA GRIMM
Hickory, Virginia

THOSE WHO LIMIT their gardening to flowers and other ornamentals are missing a great deal. Raising your own vegetables not only helps keep up with the rising cost of living, but has other advantages as well. To me, its greatest dividends are satisfaction, pleasure and beauty.

For in spite of modern methods of canning, freezing and packaging, store purchased vegetables do lose much of their natural goodness before they reach the table. You've never really tasted vegetables until you've served them only minutes from the garden.

Everyone knows the superiority of a vine-ripened tomato. Radish, lettuce and other greens require no preliminary crisping to become delectable salads, chock full of vitamins and minerals.

Corn on the cob, picked while the pot of water to receive it is boiling, melts in your mouth. At even one day old, corn has lost much of its sweetness and quality. Other vegetables are equally improved by freshness. They cook more quickly, retain their vitamin content and taste better, fresh from the garden.

And who can deny that there is beauty in a well-kept vegetable garden, with neat rows of foliage in varying shades and textures? By November most of the flowers are gone, but from the kitchen window I look out on a portion of the fall vegetable garden where deep red beet leaves, feathery carrots, curly mustard, yellow-green oak leaf lettuce and blue-green rosettes of cabbage, delight the eye.

Not the least advantage of growing vegetables is the opportunity it offers to vary your diet. Peas, snapbeans, lima beans, tomatoes, lettuce, corn, onions, beets, cucumber, carrots—these are standbys to be grown each year. In addition, each year grow a few other kinds not as commonly found in the corner grocery, varying them from year to year in your limited space. Kohlrabi, cauliflower, parsnips, salsify, swiss chard, Brussels sprouts and others take their turn.

Each year you will also enjoy trying the new varieties offered by seedmen, for after all it takes no more space, often less, to grow the best. In selecting them keep in mind the purpose for which they were developed. Some are intended primarily for market growers, canners or freezers, others for home use. Some, too, are better adapted to one section of the country than to another.

You can't go wrong by planting the All-American Selections. These have been grown for two years in 23 test gardens, in various parts of the country. Resident judges have compared them with the nearest similar kinds already on the market and have passed judgment on them prior to their introduction. Gardeners can feel confident that winning varieties will do well anywhere vegetables can be grown.

All-American Selections offers two new vegetable winners for 1959. Brussels sprouts Jade Cross is the only Silver Medal winner. In fact, its performance was so outstanding that it was the highest voted entry in seven years. We have Japan, which has given us so many fine ornamentals, to thank for this noteworthy Brussels sprouts. Takii and Co. Ltd., Kyoto, Japan, is the introducer.

Jade Cross is the first hybrid Brussels sprouts, far superior in every way to older varieties. It is vigorous and uniform in growth. The thick, straight stem reaches 22 inches, and is closely packed with firm, little, cabbage-like sprouts. Topped with rich blue-green leaves, more closely set than in older varieties, it is a beautiful plant. In its sculptured perfection it reminds one of a palm.

Said to be three to nine days earlier than Long Island Improved, the variety the writer has been growing, Jade Cross is highly resistant to black rot and downy mildew. Jade Cross should do much to popularize this refined member of the cabbage group. Although plants may be set out early for a spring crop it is of most value for an off-season one. In fact, although it will produce in the summer, the flavor is more deli-

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grow your own SALAD

LENORE BINGLEY
Ann Arbor, Mich.

THE VARIETY in salads seems limitless, but the tossed green salad is probably the all time favorite. A green salad should be green, and the best of all salad greens is lettuce, of which too many gardeners recognize only two kinds—leaf lettuce and head lettuce.

A packet of each is bought and that is all. So far as the number of seeds goes, it is enough, but there is such a variety in the color, texture, shape and taste of lettuce that anyone who likes green salads should try several kinds.

For summer salads we prefer the leaf types. They mature more quickly, and there is enough variety in the color and texture to make an attractive combination. Seeds sown in mid-summer will produce tasty, crisp leaves throughout the fall, if the early maturing varieties are used.

The following kinds are arranged in the order in which they mature, from 40 days for Oak Leaf to 60 for Matchless. The catalogs are always so very definite about the number of days, making the fine distinction between one that matures in 45 days and another in 46, but gardeners with experience never predict that accurately.

OAK LEAF is a favorite. The unusual shape is attractive in the bowl if tossed in without tearing it up. It has a delicate flavor. The plants are compact rosettes which stand hot weather well.

BRONZE BEAUTY of the same type with a bronze tint on the tips of the leaves, grows in a loose head. If allowed to mature, the center leaves tend to blanch to a creamy yellow.

SALAD BOWL, with a rosette of wavy, notched leaves, remains tender, crisp and delicious in spite of summer heat.

BLACK SEEDED SIMPSON forms a large bunch of curled, crisp leaves. The plant is vigorous, but the leaves are thin and tender.

PRIZEHEAD, despite the name, is not a head lettuce, but a loose-leaved

See page 98

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MEDITERRANEAN

46 day tour led by Prof. Donald J. Bushey, Department of Horticulture, Cornell University. Sail on SS Cristoforo Colombo, March 27.

The sunny southern route to Sicily, Italy, Italian-Swiss Lake District, the Riviera, France, the International Floralies in Paris. $1470.

WESTERN EUROPE

45 day tour led by Prof. Clark L. Thayer, former head of Dept. of Floriculture, University of Massachusetts. Sail on SS Nieuw Amsterdam, April 24.

Holland at tulip time, Belgium, Paris in the spring, French chateaux country, South England, Chelsea Flower Show in London. $1230.

BRITISH ISLES

41 day tour led by Dr. Carrick E. Wildon, Professor of Horticulture, Michigan State University. Sail on RMS Queen Elizabeth, May 13.

South England, Chelsea Flower Show in London, the lake country, the midlands, Wales, South and North Ireland, Scotland. $1291.

SCANDINAVIA

48 day tour led by Dr. Ernest K. Thomat, Executive Secretary, Rhode Island Horticultural Society. Sail on RMS Queen Elizabeth, June 10.

London, The Fjords of Norway, Sweden's Lake Country, Danish "fairytale countryside," Holland, Belgium, Paris. $1630.

NOTE: Tours of Western Europe, British Isles and Scandinavia may be taken separately or in sequence, at a saving, as they connect with each other.

HAWAIIAN ISLANDS

33 day tour led by Prof. Victor H. Ries, Department of Horticulture, Ohio State University. Sail on SS Lurline from San Francisco, May 4.

Garden Paradise of the Pacific in the spring flower season. Hawaii, Maui, Kauai, Oahu, Waikiki Beach, Honolulu. $1265 plus tax.

THE ORIENT

33 day tour led by Dr. Erneit K. Thomat, Executive Secretary, Rhode Island Horticultural Society. Fly from San Francisco, April 2.

Hawaiian Islands, Japan at Cherry Blossom Time, fascinating Hong Kong, exotic Thailand (Siam), Cambodia. $2485 plus tax.

MEXICO

22 day tour led by Mr. Phillip Clark, horticultural author and Editor, Horticulture Magazine. Fly from New York City, March 14.

Mexico City and environs, tropical Vera Cruz and the orchid region, Taxco and "old Mexico," San Jose Purua and Mexican private estates. $776.

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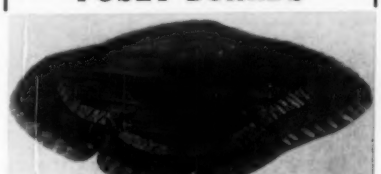

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try these small fry IRIS

JEAN ABBOTT MIETTUNEN, Estacada, Oregon

IF YOU are not already on speaking terms with the most delightful of all elfin couriers of spring, the jewel-like miniature iris, take this bit of Shakespearean advice and "make a brief of it in your notebook". Once seen, you'll find no logical argument against planting these colorful gems in your garden.

Let's first consider the charming and early little *Iris reticulata*. Coming to our gardens from the Caucasus, it derives its name from the Latin reticulum, meaning a little net. The word brings to mind the reticules (netted handbags) our grandmothers once carried and we see at once the resemblance for the outer coat of the reticulata bulb consists of a corresponding fibre network.

Resembling in miniature the more regal Dutch iris, reticulata appears suddenly where only yesterday no hint of color gave promise of the unexpected thrill to come. Its intense color will catch and delight the eye of the gardener on a sunny day in early spring for it is among the earliest to bloom. As if by magic its deep purple, orange-centered blooms burst forth on four to six-inch stems among curious stiff narrow four-sided leaves which end in a sort of horny tip.

Iris reticulata is described variously by enthusiastic growers as violet scented, sweet scented and "delicious". The flash and brilliance this valuable miniature adds to the spring garden picture, few spring flowers can rival.

Grouped at the base of the yellow dogwood, *Cornus mas*, they form a particularly handsome early spring garden picture. For the color of one bloom sets off and complements the color and form of the other. They are also delightful when planted in combination with *Arabis alpina*, showy dwarf early white-blooming perennial.

Planted in the fall, two or three inches deep in well drained sandy or fibrous soil in a sunny, somewhat sheltered spot, *Iris reticulata* will flourish and increase rapidly. If not lifted and replanted rather frequently the flowers become so crowded that the outline of the individual bloom is lost, thus robbing the plant of its unique beauty and charm.

Annuals may be planted among the bulbs after the foliage has matured. Lift the bulbs about mid-July for replanting. Do not keep them long out of the ground, as with any bulbous iris, they are apt to shrivel with moisture loss. If necessary to store for any length of time, cover with dry sand to preserve moisture in the bulb.

Other reticulatas, all miniatures include Hercules, somewhat larger than the type with falls of bronzy-violet; Cantab, light blue with orange markings and reticulata J. S. Dyt, about four inches with reddish-purple blooms.

Still other early-blooming liliputians belonging to the reticulata group or closely related, include *Danfordiae*, a three-inch charmer found growing in colonies more than half a century ago on the slopes of the Cilician Taurus at a height of some four thousand feet.

Vartani alba is a lovely white form of *Iris vartani* which first came to us from Nazareth in far away Palestine. This exquisite miniature, superior in both form and hardiness to its less glamorous parent, has pure white flowers with vividly contrasting crests.

Histroides major is yet another valuable early blooming diminutive (three inches) and adds a sparkling spot of bright blue when grown in the spring garden. Excellent for the rock garden or wall are the blue *I. cristata*.

Shown in the illustration at the top of the page is a clump of *Iris cristata*, with a single *cristata* bloom at its right followed by *I. histroides major* and *I. reticulata*.

Black Plastic

From page 64

through black plastic. Polyethylene four-foot wide was rolled out with soil on each edge to hold it in place. Beans were planted and tomatoes were set through slits in the plastic. Fertilizer was applied and worked in before the plastic was laid.

The plastic grown beans produced 10 days earlier with a heavier crop of better quality. The tomatoes also bore 10 days earlier with better quality.

Learning of these outstanding results with black plastic, similar tests by Dr. R. L. Carolus, Michigan State University, with muskmelon were conducted in 1957. The black polyethylene mulch doubled the yield of Honey Rock muskmelon.

The film used was 1.5 mil black plastic, which is inexpensive. Hoeing was eliminated and hand weeding was necessary only close to the plants, where the film had been cut to permit planting.

Tests with tomatoes on unirrigated, light sandy soil increased yield 39% when black plastic film was used.

Results Checked

In order to check results in a home garden, the writer used black plastic on tomatoes and muskmelons. Melons do best on a rich sandy-loam soil but we had to be content with a fairly productive clay soil. Before the plastic was put down, I watered the soil well after fertilizing with a 4-16-16 fertilizer. Seeds were planted through slits in the plastic as soon as danger of frost was over. Plant protectors were used until the plants were well up. Ordinarily we are lucky to get a few fair quality melons on this heavy soil but with the plastic mulch we harvested some of the most delicious, deep fleshed muskmelons we have ever eaten. The tomatoes too were of better quality.

We found it necessary to irrigate through the mulch once or twice. Dr. Carolus and J. D. Downs report that irrigation significantly increased the results from mulching. Benefits obtained from plastic mulching were attributed to higher temperatures both under and above the mulch with better soil tilth. These factors appeared to be more beneficial for melons than for tomatoes. In our own experience the gain in quality and earliness made the use of black plastic well worth the cost, while the control of weeds offset the other costs.

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Oscar K. Moore, Gainesville, Florida

AFRICAN VIOLETS *create your own hybrids*

If you have not tried your hand at hybridizing, let me assure you it is a most rewarding experience. Few hobbies offer more fun or permit so deep a sense of creativeness. True, much patience is required in waiting for seeds to mature and new plants to flower—but the suspense is thrilling.

Few plants offer you so great an opportunity to create new characteristics as does the African violet. By crossing varieties and species new flower colors and color combinations, new flower forms ranging from singles to full doubles, new leaf forms and colorations and varying habits of growth can be produced.

To create a new hybrid, take pollen from one plant to fertilize blooms on another. The flowers of the African violet are bisexual and therefore complete, containing both male and female parts. Consequently, each flower carries in the center of its petals a pair of small yellow sacs. These are the anthers, which are borne on the stamens. They contain yellow particles, the pollen, which is the male fertilizing material.

Examine a flower and you will also see a little stalk which grows outward at an angle at one side of the pollen sac. This is the pistil, the female part of the flower which bears the stigma at its tip. In cross-pollinating, transfer by hand the pollen from the pollen sac of a flower from one plant to the stigma of a flower borne on the plant selected as the female.

Plants so chosen should show vigorous growth, heavy flowering, and have the characteristics of color and habit that you desire to cross. If you pollinate in the spring, seed will mature in about five or six months; if in summer or autumn, some two or three additional months are required.

While cross-pollination may be accomplished by several methods, we shall mention but one. To insure purity in the crosses, remove all pollen sacs on all flowers on the mother parent with a pair of scissors or tweezers. This step will assure that only the pollen you apply will reach the stigma.

Next, clip the two yellow pollen sacs from a mature, fully developed flower on the male parent. Open the sacs with a needle and shake their yellow pollen on a piece of dark paper. Pass a small camel's hair brush over your hair, thus charging it so it will pick up the pollen. Then rub the pollen off on the stigma of several flowers. Clean the paper thoroughly before new pollen is gathered and dip the brush in alcohol and let it dry. This will prevent any mixing of pollen. Attach a label containing the name of each parent and the date of flower stem pollinating.

Since hand pollinated plants bear more seed than those that are naturally pollinated, it will pay to hand pollinate whenever you want to reproduce pure varieties from seed. In this case, rather than crossing varieties, transfer pollen from one plant to stigmas of another plant of the same variety.

If pollination is successful, the ovary in the stem just below the petals will begin to swell within a few days. This area becomes the seed pod, which will ripen in from five to nine months, depending largely upon the season of pollinating. When the green pod turns grey and the stem dries, it should be removed and dried in the sun for a week before being opened with a needle so the tiny seed can be collected.

Plant the seeds by pressing them lightly into the soil of a planting dish or box, which has been sprinkled with a weak fertilizer solution. Do not cover the seed. Seedlings should appear in about ten days. When an inch high, transfer them to small pots and in from four to nine months, they should flower.

Many crosses yield hybrids that are not desirable, but once in a while something great happens! The possibilities are infinite. Whenever you get a desirable hybrid, reproduce it vegetatively. A hybrid will not reproduce true from seed, unless it happens to be a mutation, and mutations occur infrequently.

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HARDY ASTERS, also known as Michaelmas daisies or starworts, have made great progress in the past decade, adding much to what was a reliable, useful perennial even before the hybridizers got to work. Wild species, particularly the New England (*Aster novae-angliae*) and the New York (*A. novi-belgi*), also are spectacular in the autumn garden. Hybrids display purer pinks, blues, purples, reds and whites, doubles and cushion types, dwarf and semi-dwarf. Their growing popularity is partly due to their innate charm and partly to their sturdy plants and last-of-the-season flower. The picture above illustrates the lively effects which can be accomplished in combining tall blue asters with yellow African marigolds. Equally striking would be a border of the 10-15 inch dwarf Bonny Blue aster with Red and Gold Hybrid marigolds as a backdrop or mixed with lower French marigold varieties. Some garden designers create rich patterns of color using the aster blues with chrysanthemum yellows, bronzes and golds. The dwarf sorts also lend a bright bit of color to the rock garden. Good, average garden soil, full sun and moist, but not wet soil are recommended for most asters. They can be divided annually

DEAN R. OGDEN, Asheville, North Carolina

pruning to improve GARDEN DESIGN

THE FINEST GARDEN design by the most talented artist is only as good as the maintenance it receives, because an important element in composition is scale or proportion.

Overgrown scrawny, sick, twisted or tangled trees and shrubs are a common landscape ailment. Because plant growth is so imperceptible, we do not realize the change taking place in the landscape. Some who do understand what has occurred are afraid to prune.

One rule, if followed meticulously, will solve a large part of the pruning problem. Make a careful study of each plant, and strive to recreate a replica on a smaller scale. Beware of the barber or plastic surgeon pruner that treats every plant identically.

Hedges are an exception to this rule. Keep the top of a hedge half as wide as the base. It does not matter whether the hedge is square cut on top or rounded, the lower branches need sunlight and air to remain compact and green.

Some hedge plants spread out like a fan as they grow with the stems becoming open and unsightly beneath. Yews, hemlocks, privet and boxwood, are excellent as hedges because their lower leaves will thrive in semi-shade. Choose the hedge plants according to the purpose of the hedge.

Prune spring flowering shrubs soon after the flowers fade. They produce blossom buds on the year-old wood, so active growth should be encouraged. Pruning too late in the year will cost next spring's bloom. Keep your cutting tools clean and sharp so the wounds will heal quickly.

Remove all dead wood first and any diseased branches. If the shrub is multi-stemmed, remove a few of the oldest stems entirely. Do this each year until the shrub is completely renovated with new young growth. Head back long canes of lush new wood. Remove any branches that rub or cross through the plant in an un-natural manner.

If the shrub is overgrown with most of the growth from one or two main stems, cut back the entire head two or three feet from the ground, making the lowest cut at the front. When new growth appears around the stubs, nip back the soft tips so the canes will branch out.

An alternative is to cut back the top one-third in height and width. Make each cut about one-fourth inch above a bud, usually above one that points outward.

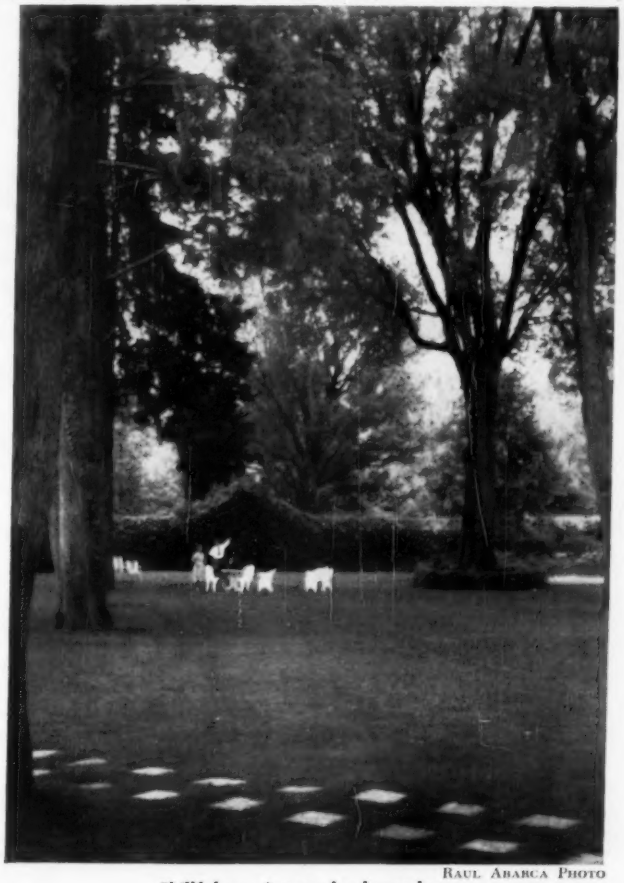
Summer flowering ornamental shrubs bloom on new growth, so they may be pruned any time before spring. January and February are ideal, the time extending through March in the northern sections of the country. Some, like the butterfly bush, should be treated as a perennial, cutting it to the ground each year.

Summer flowering shrubs never get out of control, because they can be cut back hard each winter. In pruning, keep the natural growth habit.

Broadleaved evergreens are indispensable to the landscape artist and seldom need pruning. Sometimes a frigid wind on a bright winter's day will burn the leaves and branch tips. When this happens, wait until new growth starts before cutting off the damaged parts, then cut dead tips and two or three inches of the live stem.

It is not wise to prune in the early fall, because new growth that appears may not harden sufficiently to withstand the first freeze.

For pruning purposes, narrow-leafed evergreens may be divided into three groups: *See page 109*



RAUL ABARCA PHOTO

Skillful pruning can lend grandeur

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Black Blossoms

From page 73

or wilt under the hot sun.

Some of the exquisite new introductions are still high-priced. But for those who would like a few near black blooms in their garden at very low cost, I recommend Sable, Indiana Night, Velvet Dusk and Black Forest. They are extremely dark, but the flowers are not so large as those of later introductions.

Daylily hybridizers have also been working for a black flower. My own hybrid Black Velvet is completely black when it first opens in the morning with no trace of color. Then, as the sun rises, the flower kindles and red undertones emerge. At the end of a hot day it is a glowing cardinal with jet black overtones.

Black Leopard is a gleaming black-red that shines like a glossy piece of fur. The coloring of Black Jewel is a maroon-black, while Black Magic is purple-black with a contrasting pale green throat. An established clump will have as many as 40 flowers in bloom at one time which do not fade in the sun. The rich, dark red-black Black Cherry also does not fade, which makes it a garden favorite.

Dark Grey Daylily

Black Hills, when planted in shade, appears black with only a slight infusion of red. Black Falcon is difficult to describe. In my garden it varies with the weather. Some days it is purple-black, while on others it is an indescribable dark grayish color.

Raven is a rich, maroon-black with a chartreuse throat. Another dark and dusky daylily, Stygian, has a mahogany-purple blend. Inexpensive old favorites Black Prince and Black Emperor are both dark wine red-black. Others in this class are Black Cherry, Black Hills, Black Falcon and Stygian.

Rose hybridizers, too, are working toward production of a black rose. Several dark reds with a black sheen or overtone such as velvety, dusky, deep maroon Zulu Queen and Nocturne are nearing the goal.

Midnight is the nearest to black of any rose, a gleaming changeable velvet. Despite its dark color, it appears to throb and glow, from black to red, like a living flame in the garden. Its spicy fragrance of cinnamon and clove is quite unlike that of any other rose.

See page 98

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Grow Your Salad

From page 89

variety, with leaves curled and frilled. The reddish brown leaves add color to the salad.

SLOBOLT, as the name implies, stands hot weather and remains dwarf and compact with a thick cluster of leaves in the center.

BIBB, classified as a head lettuce, is "the gourmet's favorite", with small rounded leaves, dark green, blanching to creamy yellow in the center. It is excellent for early spring and fall, but bolts to seed in hot weather.

MATCHLESS, or DEERTONGUE, as it is sometimes called, is almost a Bibb type, with about the same texture and taste. The plants grow in an upright cluster of dark green leaves having a thick, crisp midrib. It blanches in the center as Bibb does.

Rex Begonias

From page 77

blends into iridescent silver-green. Black Knight, deepest maroon sprinkled with tiny pink polka dots. Fireflush, fuzzy texture, colors dark red, green and black. Marion Louise, angular spring-green leaves with zone of glistening silver-green. Iron Cross, nubby pea-green leaves, distinct mahogany German cross in center. Helen Teupel, silvery background with heavy, deep red geometric pattern. Cardoza Gardens, masculine foliage with heavy texture, blood red, light green, silver. Glory of St. Albans, rose, silver, emerald, olive green. Oregon Sunset, heavily ruffled, crested leaf, colors like maples in fall.

Effective background varieties—Silver Sweet, silver and gun-metal gray. Midnight, hazy white pin-point effect on dark gray. Can-Can, rosy purple iridescence on silver taffeta. Thrush, deep red dusted with finest silver.

Dwarfs and miniatures—Baby Rainbow, zones of every conceivable color. Dew Drop, lavender-pink finished in lustrous mother-of-pearl. Rose Marie, crisp, silvery leaf with pink and orchid overcast. Our Jade, delicate, shining silver-green traced with jet. It, pebbly leaves buff on green, profusion of pink blooms with some sun. Dawn, small, brownish red, silver.

Striking combinations—All-green Evergreen with all-silver Solid Silver. Black-red Vesuvius with shining Silver Rose. Ephemeral Inimitable with brilliant Peacock. Handsome maroon King Edward with dainty silver Rose Marie. Green-zoned Peter Pan with color-splashed Painted Lady.

Queen of the Night

Black Blossoms

From page 97

Tulip hybridizers have long worked to perfect a black tulip. Among the best of the near-blacks is Queen Of The Night, a Darwin of velvety maroon-purple-black.

Black Parrot has fascinating, ebony-black blooms highlighted with velvety maroon. Uncle Tom is a double dark-brown flower, nearly black with a unique globe-shaped form.

Such tulips grown in partial afternoon shade, have a startling blackness and when brought into the house, they appear jet black against white curtains.

Defiant Trees

From page 86

(with the shrubby *stellata* also represented). Two althea (*Hibiscus syriacus*) twenty feet high vie with the trees. One Canadian yew (*Taxus canadensis*) stands disconsolately among the more adjusted plants. Rhododendrons are doing fairly well; *Azalea amoena,* andromeda, Japanese holly and cotoneaster much better.

In front of the museum are linden trees; beside it ailanthus, in a dark, narrow strip shut in by neighboring walls. Both trees are doing well.

Here, as elsewhere in the surrounding blocks, English ivy gives the richest effect, covers the largest area, seems to grow with real delight, adds a glossy look of green and health the year around. If a single variety of plant were to receive a crown for its contribution to city vegetation it would without question be English ivy.

Japanese Landscaping

From page 83

in our gardens, it is meant to suggest water. A garden scene having white sand in the foreground with foothills and distant mountains in perspective, sometimes with a stone ship, is common in many parts of Japan. A small hill and cool ravine with a sand "waterfall" is also frequently seen.

SIMPLIFICATION—Landscape plantings made as simple as possible lend an illusion of vacant space and an impression of solitude, charming in its simplicity.

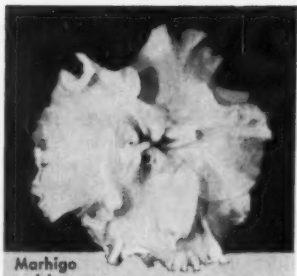
Japanese paintings in black and white, called monochromes, have a strong influence of this same treatment. When we see only one object and nothing else on a sheet of paper, we have only one object on which to gaze. The more our attention concentrates on this masterpiece, which is so well outlined, the more we feel and appreciate the rare expression of the abstract form. The fact that vacancy stimulates one's imagination and induces the creating of one's own scenery frees the observer from the artist's dream and permits him to create his own.

The Japanese believe that true beauty can be discovered only by one who mentally completes the incomplete. Beauty of vacancy constitutes the basic technique of Japanese art. Severe simplicity is conducive to meditation and introspection.

CONDENSED SCENERY — So-called condensed scenery is used to reproduce an extensive view in a small garden. Only the most important or prominent feature is used. For example, perhaps a single tree is featured.

BORROWED SCENERY—The efficient use of a small piece of ground is characteristic of the Japanese garden. The Kyoto Gardens, located at the foot of the eastern mountains, are good examples. These gardens are given an extensive appearance by using outside scenery as a part of the garden structure. By taking advantage of this method, a wider appearance is given to a small garden.

Nowadays in Japan, life has become quite westernized, especially in the improvement of housing facilities. We have been trying to install many modern pieces of equipment such as refrigerators, gas heaters, ovens, washing machines and to some extent, tables and chairs. Even the western type of house is becoming more popular. To harmonize our gardens with the modern house, we are beginning to adopt the spacious lawns, big paved areas, even barbecue sets in the garden corner.



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Soil Test

From page 81

should provide all the mixing required. At this time, add, mixing to root depth, the phosphorus, potash and peatmoss, sand and other soil building materials.

Discing the subsoil before replacing the topsoil is quite necessary. This not only provides the bond which should exist between the top and subsoils but breaks up and aerates the compacted crust formed by the passage of heavy trucks and machinery over the ground. Under some circumstances subsoiling is necessary to overcome compaction.

Four inches of topsoil properly treated and maintained should support a good growth of grass indefinitely.

As with other growing things, the proper kind and amount of plant food is essential for healthy, vigorous, resilient turf. Once the levels of phosphorus and potash have been brought to those recommended in the soil test, their yearly depletion is relatively slow. An application of complete fertilizer once a year in the maintenance program should suffice to maintain these levels.

Nitrogen Requirements

This is not the case, however, with nitrogen. Turf needs a plentiful and constant supply of nitrogen if it is to retain its color, health, vigor and resistance to disease. This nitrogen can be obtained from natural or commercial fertilizers and might be in either organic or inorganic form.

Among natural fertilizers are the manures, both green and animal, composts, peats, humus and other organic forms. In these the nitrogen is low when compared with commercial fertilizers, but it is in a form readily assimilated by the grass.

In commercial fertilizers the nitrogen may be either chemical or organic in form. The chemical type is quick-acting and soon dissipated, with exception of the urea-form fertilizers which have a longer period of effectiveness. The organic form, whether natural or synthetic, is normally available more slowly and its effect lasts for a longer time.

Water transports as well as dissolves the plant foods and takes them to the feeding roots of grass and other plants. It provides the life blood, so to speak, of all growing things. For best growth plants must have adequate moisture.

Soil structure is a vital factor in the supply of moisture. A permeable soil

See page 107

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Jade Cross brussels sprouts

New Vegetables

From page 88

cate in the fall after the plants have been touched by frost.

Here in Virginia we sow it in late June or early July, and enjoy sprouts for weeks in the fall and early winter. They are surprisingly hardy. A few days after a 20° F. freeze in early December, sprouts of fine quality were consigned to the freezer. In more northern climates, when zero weather is at hand, plants which are covered with sprouts may be taken up and heeled into a cold-frame, pit or cool cellar.

Brussels sprouts require practically the same culture as cabbage. The sprouts develop at the bottom of the stalk first, in the axils of the leaves. As the stalk grows, break off the lower leaves to give the sprouts room to develop, leaving a rosette of top leaves to protect them and nourish the plant.

Gardengreen bush snapbean is Bronze Medal winner in the All-American Selections. Last year we had excellent results with Improved Tendergreen snapbean and as Gardengreen is even better we expect to enjoy some superlative beans next summer. It is especially recommended for home consumption, canning and quick freezing. Gardengreen seems to have everything. Its round, dark green pods are similar to Improved Tendergreen, not as long (5½ inches) but even straighter and more uniform.

They are good to eat as well as to look at, for they are thick-meated, fiberless, stringless and of excellent flavor. The plants are distinctive in appearance, of medium height, with rather small, dark green leaves. The snaps are held well off the ground, making them easy to pick and assuring a clean crop. Gardengreen is resistant to mosaic and tolerant of both halo blight and root rot. The introducer is Charter Seed Co., Twin Falls, Idaho.

Other fine new vegetable varieties are offered this year. For several years this writer has grown Aristogold Bantam Evergreen, so on general principles a change is in order and Golden Rocket will be given a try. This early maturing hybrid has ears slightly under eight inches long and well filled to the top with tender, sweet kernels. Good husk covering provides protection from insect pests and diseases. Whatever variety is grown, for full ears, plant in a number of short parallel rows rather than in a few long ones, for corn is wind pollinated.

Cucumbers add zest to summer meals, yet because of the mistaken notion that they take up too much space, few grow them. Yet as it is a climbing plant, it may be grown on fence, trellis, or on wide hoops of concrete reinforcing wire, such as we use for tomato supports. Last year we grew Burpee Hybrid cucumber and were delighted with its high quality, uniformity, and prolificness.

New this year is another first generation hybrid called Burpeeana Hybrid. It is a few days earlier in maturing, and continues to produce over a long period. The average size of the cucumber is eight to nine inches long and two and a quarter inches wide. It is cylindrically shaped with rounded ends and has a rich, dark green coloring entirely devoid of undesirable speckling.

Burpee Earliana Cabbage is a new one which should appeal to the home vegetable gardener. It is a small, compact grower, permitting close planting. Moreover, it is adapted to early planting and matures in only 60 days. The round heads grow four and a half to five inches across, weigh two pounds or more and are compact and well folded. It has a short core and is an attractive medium green color. Earliana seems ideal for small family use.

Gardengreen snapbean

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If grown in pots for inside use, you can have bloom until February to be transplanted in garden in May. Although miniature in size the plants are hardy.

This unusual rose was first discovered in Mauborget, Switzerland, where the peasants had used them as house plants for centuries. In this country several improved types, including the new miniature tree rose—a 12 inch trunk covered with roses the size of a nickel, have been produced.

Give them the same care as you would African violets, and they will bloom indoors throughout the winter. Tree roses can be obtained in red, pink, white and yellow.

Among the varieties of miniatures are:

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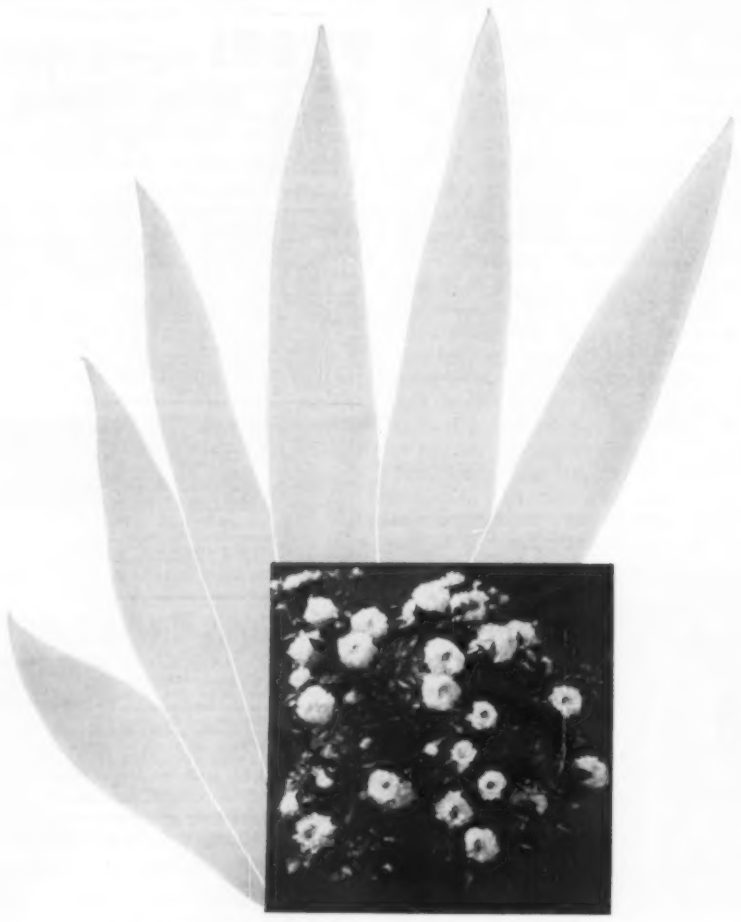

The white miniature rose Twinkles in front of German iris

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R. CHINENSIS MINIMA—pink blooms. This is the genuine Swiss Alpine everblooming rose.

PRESUMIDA—golden orange blooms. This is a European Spanish imported miniature.

BO-PEEP—deep rose red buds with arbutus-pink flowers. This is one of the tallest.

JACKIE—yellow buds with fragrant flowers. This is a hardy sub-zero hybrid climbing miniature.

NEW SNOWFLAKES—lemon yellow buds with white blooms. Profuse in flowers.

CENTENNIAL MISS—velvety-black-crimson. This is the darkest double free-flowering variety.

BABY GOLD STAR—golden orange buds developing into rich yellow blooms. The green foliage is shiny.

Other varieties include Pink Joy, white Frosty, lavender Patty Lou, pink Cinderella, red Perla De Alcanada, pink Lilac Time, and crimson Tom Thumb. There is also an everblooming climbing miniature rose that grows 3 to 5 ft tall with rose pink buds and blooms. Cut flowers are long lasting.

By keeping the plants normal and healthy during the summer months, they will be hardy to withstand the cold months ahead. When watering soak the beds to a depth of 12 inches at least once a week. In feeding use an organic fertilizer, or cow manure with one tablespoonful of 4-12-4 or 5-10-5 every six weeks until August. A mulch of peat moss is essential to winter survival. While pruning is ordinarily done in spring, I prune them in fall to keep them compact so there is minimum of breakage by ice and snow.

Although fragile in appearance, miniature roses are hardy outdoors, resistant to insects and diseases, and need little protection south of the New York area. Fluctuating temperatures play more havoc than low temperatures. After the first freeze, mound earth around the plants. Later a coarse mulch of straw or leaves will give additional protection in areas where the temperature goes below 10 degrees.

When you display your miniature rose cuttings in tiny containers you will be rewarded for your efforts by the admiration and comments of your friends.

DOROTHY S. MANKS, Massachusetts Horticultural Society

how to start a GARDEN CLUB

How is a garden club started? There is just one essential, a group of congenial people who enjoy gardening. Neither money, skill nor elaborate organization is necessary, but willingness to learn gardening skills and work on well-defined projects, is.

Interesting, varied programs are essential. During the fall, spring and summer months, outdoor activity can be planned. Winter will force activity indoors. Programs must have variety and sparkle. A formal paper may be well done and interesting. A succession of them is sure to be monotonous. A series of short talks or a panel, a demonstration or a quiz program will appeal. Films and slides may be used, but be sure the projector works, the operator is familiar with it, and the slides are right side up.

Guest speakers help to keep a club in touch with broad gardening progress. A joint meeting can be held with a neighboring club, to repay hospitality, to share expenses or raise money. So by all means plan to have a guest speaker once in a while.

While you are thinking how much the speaker will bring to your club, do not forget the speaker. See that he knows how to reach the meeting place or the home of his host, and if possible have someone meet him and take him there. He should, obviously, be taken to the meeting place early enough to check on arrangements for slides. And, Madam Chairman, introduce your guest in a few words, not a speech.

If club members are inexperienced gardeners and their free time is limited, one meeting might be a work day, with everyone potting bulbs for forcing or

See page 104

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Garden Club

From page 103

making up good soil mixtures for house plants or doing any number of such seasonal jobs.

A flower show need not be elaborate. Any club can have a successful and educational show quite simply with a display of spring bulbs or June roses or flowering shrubs. Or perhaps winter branches with a contest for identifying them, or flower arrangements with a holiday theme. The basic requirements are a timely theme and simple good taste in presentation.

What the club does for its town will depend partly on the needs of the moment. Naturally, any major permanent project should be discussed with department heads to be sure that the club plan is acceptable.

Get away from the familiar meeting places once in a while. If there is a botanical garden, arboretum or regional garden center, the club will be welcome and the staff can offer educational programs and services. If you are fortunate enough to be near a good nursery, a visit might be arranged, but not during the busiest season.

One project can contribute to another, and the year's work should be planned with that in mind. Instead of buying shrubs for a planting at the hospital (civic project), the members of one club raised their own from cuttings (horticultural project).

Conservation is so well organized by the state garden club federations that good leadership is available to any club. The most important thing the conservation chairman must do is to present the cause in ways that will make it seem real and urgent.

Surprisingly few clubs have anyone assigned to report on garden news. The garden magazines are full of well-written articles of seasonal interest. Seasonally, the seed and nursery catalogs come in every mail and are often mines of information. Every year sees the publication of books to suit all tastes.

The president of the club has her own special set of problems. What makes a good president? We all know the definition of an executive as "somebody who can set other people to work," and this ability is important.

Try to see that every member is given something specific to do during the year. It does not matter how small the job, it is the recognition that is important. If she has contributed in some way to the year's work, she takes more pride in making things go well.

Every club officer experienced as well as novice, sometimes finds problems on which she needs advice. There are books on club work available at many public libraries and in the libraries of garden centers in all parts of the country. Many state agricultural extension services publish bulletins. Representatives of the garden club federation of each state are available, as are the National Council of State Garden Clubs and the Men's Garden Club.

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COCKSPUR—just right for your window garden

IF YOU HAVE NEVER grown spur flower or plectranthus *(Plectranthus oertendahli)* you have missed a charming house plant.

Plectranthus, meaning spur flower in Greek, alludes to the swollen base of the corolla-tube, but the plant is more commonly called trailing or prostrate coleus. Another name is cockspur flower.

From the Royal Horticultural Society in London, I learned that the plant was named in honor of Ivan Anders Oertendahl (1870-1935), who was head gardener of the Botanic Garden of the University of Uppsala, Sweden, for many years beginning in 1904. He developed the plant during that period.

The strong, pencil-shaped branches have delicately veined disc leaves, the undersides of which take on a rich, beet-red color in sun. Those in north or northeast window become apple-green, veined with silver. Plants growing in a minimum of sun seem to develop much larger leaves, but the color, size and shape of the blossoms do not change.

Spur flower may be raised solely for its foliage by pinching off the blossom buds when they first form, a practice that will make plants grow much heavier and larger. The blossom, slightly off-white or very pale blue, consists of a dainty spike on which several minute "lady-slipper" flowers appear. Once a plant begins to flower, clip off fading blossoms. Fertilize periodically for continuous bloom.

Propagation is easy. Rooting cuttings in water takes longer than rooting them directly in soil after treating with a solution of vitamin B_1. Take cuttings with at least six leaves and dip them in a solution of B_1 for a few minutes. Next, put a stone over the hole in two-inch clay pots, and add one tablespoon of potting soil and a scant tablespoon of powdered cow manure. Then fill the pot with potting soil.

Finally, poke a hole in the soil and insert the cutting, setting it so the first two leaves are just above the soil. Press the soil firmly around the cutting and water with the B_1 solution. Set the pots in light but not full sun for a day or two.

During the winter months, I keep the potted cuttings under a fluorescent lamp in my "indoor greenhouse" and in only a day or two I notice activity beginning. I have had some plants blossom in a month to six weeks.

Plants will go "limp" if they are not given enough water or receive too much sun. With a little plant stimulant and a move into shady quarters they will quickly return to normal. Plectranthus appears to be free from plant lice and diseases.

The shape of the plant will depend upon its treatment and care after transplanting. It may be made to grow as a vine, a "tree-shaped" plant, reminding one of a horse-chestnut in blossom, or it may be trained to grow low and squatty, depending upon where it is to be placed. The blossoms make attractive corsages or miniature arrangements. Plectranthus and the zebra striped wandering jew make a pleasing combination.

Plectranthus or cockspur

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May we suggest a gift membership in this Society for Valentine Day? Individual $5.00, dual (man and wife) $7.00, with a full year subscription to HORTICULTURE Magazine included.

1959 FLOWER SHOW

February 21 — March 1

New location — Detroit Artillery Armory • *Admission $1.50*

Free to members (membership card required) Sponsor's tickets, now available at this office at $5.00 each, entitling the sponsor to unlimited visits to the exhibition, make welcome Valentine gifts.

SPONSORS' NIGHT, FEBRUARY 21

Schedules for the Flower Arrangement Section may be obtained by writing or telephoning this office.

Clippings from CLUBS and SOCIETIES

Garden of Tomorrow

The International Garden of Tomorrow, part of the Oregon Centennial Exposition to be held from June 10 to September 17, 1959 in Portland, will cover five acres. Here newly developed hybrids, shrubs and herbaceous plants from all parts of the world will be seen, together with a floral clock designed to give correct time night and day. Displays from more than 35 nations are expected.

Botanical Congress

The Ninth International Botanical Congress will meet August 19-29 in Montreal, Canada, with sessions at McGill University and University of Montreal. Preceding the congress, the Bureau of Nomenclature will meet from August 16-19. Additional information is available from Secretary-General, IX International Botanical Congress, Science Service Building, Ottawa, Canada.

The Pennsylvania Horticultural Society

389 Suburban Station Building, Philadelphia 3, Pa.

MR. GEORGE R. CLARK, *President* DR. J. FRANKLIN STYER, *Treasurer*
MRS. E. PAGE ALLINSON, *Secretary*

February Events

Display of Carnations—February 17, 18, 19, 1959 in the rooms of the Society. Feb. 17, 1 P.M. to 5 P.M. Feb. 18 and 19, 9 A.M. to 5 P.M. Staged by Mrs. Lewis H. Parsons, Villanova, Pa.

Specimens of Camellias—February 23, 1959 in the rooms of the Society 9 A.M. to 5 P.M. Exhibited by Dr. S. Lehman Nyce, Norristown, Pa.

Lecture "The Landscape Garden in America" by Dr. George B. Tatum of the University of Penna.

Philadelphia Flower Show

March 9-14 inclusive

Schedules of classes sponsored by the Penna. Hort. Soc. have been mailed to all members. Each member will receive a free ticket to the Show.

There will be a number of non-competitive classes of educational interest in our part of the Show, as well as a section devoted to competitive classes stressing horticultural merit. Membership in the Society is not a requirement for entrance to classes sponsored by the Society.

Annual Meeting

At the Annual Meeting of the Society held on November 19, 1958, the following members were elected to serve on the Council for a three year term: Mr. Charles Becker, Jr.; Mrs. Van Horn Ely; Mr. J. Liddon Pennock, Jr.; Mrs. G. Ruhland Rebmann, Jr.; Mrs. Francis H. Scheetz; Mrs. Ralph T. Starr, Mr. R. Gwynne Stout, Mr. Joseph B. Townsend, Mrs. W. Beaumont Whitney, II; Mrs. Richard Wood, Jr.

Book Review

FLOWERS OF THE WORLD IN FULL COLOR. Hanover House. 1958. Robert S. Lemmon and Charles L. Sherman. $7.50

All who are interested in the origin and history of our most beautiful garden flowers will find this non-technical book with 600 colored illustrations a valuable addition to their library. An index by popular name, followed by the botanical name in italics readily locates particular plants, each of which is shown in color, accompanied by a description giving the human side-lights of its discovery, migrations and influence on man. All material is grouped in four categories of temperate and tropical zones of the old and new world.

H.D.M.

Williamsburg Garden Symposium

The popular Williamsburg Garden Symposium, a practical gardening seminar, will be conducted for the thirteenth season with two sessions, March 4-6 and March 11-13. Prominent horticulturists and landscape designers will discuss Old World plants in New World settings. Special tours of colonial gardens and restored homes in the Williamsburg, Va., area, not usually open to the public, will be a part of each symposium.

Duke Gardens Foundations

Miss Doris Duke, president of Duke Gardens Foundations Inc., and Charles D. Webster, president of the Horticultural Society of New York, recently announced an agreement to develop a center for horticultural exhibits and research featuring 60 acres of natural woods, gardens and greenhouses on the banks of the Raritan River, near Somerville, N. J. Plans include a collection of rare plants, demonstrations of new growing and breeding techniques and testing of plants.

International Horticulture Show

Plans are under way for an International Horticultural Show to be given in Buenos Aires, Argentina, during May, 1959. Argentine Ministry of Agriculture and customs officials are solving quarantine and import permit problems. Further information is available from Ricardo A. Bellotti, secretary, Exposicion Horticola Argentina, San Martin 232, Buenos Aires, Argentina.

New Rhododendron Garden

The newly created rhododendron collection at Biltmore Estate, Asheville, N. C., has already received national recognition by the American Rhododendron Society, which has designated the new plantings as an Official Test Garden.

A 20-year plan to form a major collection including azaleas, was begun in 1957. Thousands of small plants, representing more than 500 species and varieties, have been planted, to be grown on before setting in the permanent location.

The original estate covered 125,000 acres and was the "cradle of forestry and conservation in America". Mr. Chauncy Beadle, the first superintendent, made it a plantsman's paradise during the 59 years he was in charge. Included in the 12,000 acres remaining is the Chauncy Beadle Memorial Azalea Garden, the largest and only complete collection of native American azaleas in the world.

Dr. Fred J. Nisbet, now superintendent, is grateful for this big start "as azaleas are just one series in the genus rhododendron. During the next few years we should assemble one of the finest and most complete collections known. We hope that our testing will lead thousands of gardeners, nurserymen and botanists in our area to plant many of the finer kinds which we find adapted to our conditions."

A special Judging Committee of the Southeastern Chapter of the A. R. S. will pass on the performance of all new varieties and species grown at Biltmore.

Send Flower Seeds Abroad

Using the Liberty Hyde Bailey memorial stamp honoring horticulture, the Garden Club of New Jersey and other clubs of the National Council of State Garden Clubs sent 3500 letters to the clubs and individuals in 57 countries inviting inquiries about American gardening. Sent as first day covers and including flower seeds, gift of the Burpee Seed Co., and a message of friendship from President Eisenhower, they elicited more than 500 responses from over 50 countries. Mrs. Lewis M. Hull, Boonton, N. J., who had a part in the issuance of the stamp, had charge of the project in cooperation with Mrs. Charles W. Holton, Essex Fells, N. J.

Lily Conference

A four day Conference on Lilies, Fritillarias and Nomocharis, the first in 25 years, will be held under the auspices of the Royal Horticultural Society in London July 7-10. Invitation to attend is extended to all who have a deep interest in any of these bulbous plants. Gardens of Windsor Great Park, the Royal Botanic Garden, Kew and Wisley will be visited. For details, write the Secretary, Royal Horticultural Society, Vincent Square. Westminster, London S.W. 1.

Where Are They?

Dear Editor—Would HORTICULTURE readers let me know if there are any friendship gardens in this country and if so where? I remember several of them in England, but have found few here. I also wonder if the idea of friendship gardens has spread to other countries.

—CONSTANCE TRAVERS
Long Ridge Road
Stamford, Conn.

Soil Test

From page **100**

with high organic content will hold the moisture necessary for plants and allow the excess to drain away. An impermeable soil such as clay, or others tightly compacted, will not allow water and air to circulate, in consequence, the roots are starved, drowned or suffocated.

Temperature promotes or retards grass development. Soils in good tilth contain nitrifying bacteria and other organisms which act upon the available plant foods and change them to the nitrate form which plants can utilize. These bacteria are inactive when the soil temperature is below 45° F. As plants are dependent upon them for their food, the importance of a good live soil is doubly apparent.

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pruning to improve GARDEN DESIGN

From page 95

(1) Plant spruces, pines, firs and similar cone bearing trees where they can grow freely without pruning. If, however, you wish to retard their growth, and still preserve their natural shape, pinch out one-half to two-thirds of the soft new tips in the spring when the tips are three to five inches long.

(2) Hemlocks, yews, arborvitae and junipers can be pruned at anytime. If their natural habit is more open than desired, a light shearing might be needed each year. Be sure to shear a little each year as these evergreens do not relish heavy pruning.

(3) Spreading forms of junipers and yews often need to be restrained. The common pfitzer juniper and the Japanese spreading yew may easily attain six-foot height and 12-foot breadth if allowed to grow unrestricted. Prune at anytime but spring is most favored. Cut back the longest branches a foot or more, making sure that the shorter side branches are undisturbed. If the cut is slanted and facing the ground, the scar will not show. The feathery side shoots will maintain the plant's gracefulness.

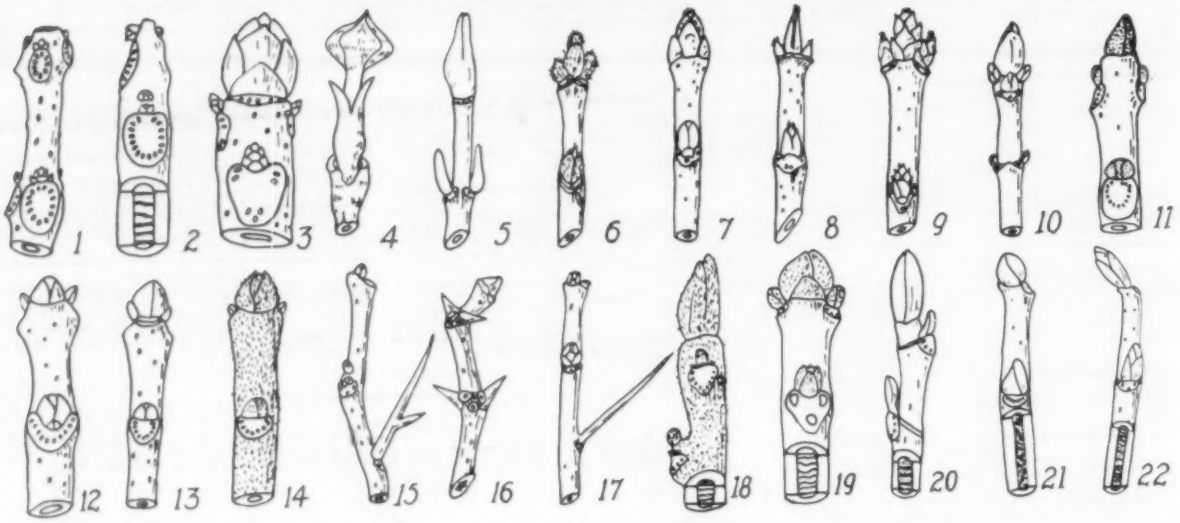
Ornamental flowering trees such as flowering dogwoods, crabs, peaches, cherries, redbuds, golden chain, golden rain, thorns and others need little pruning, except removal of dead and rubbing branches; however, a special treatment might be mentioned. Shoots from the ground are suckers. Remove the soil, cut the suckers off flush with the trunk, apply a pruning compound and re-level the soil.

Sometimes an ornamental tree carries side branches so close to the ground that it looks more like a shrub. For ease in mowing, and for appearance, it is better to cut off the lateral branches four to six feet from the ground. Pruned in this manner, the ornamental becomes attractive as part of a border planting, especially when bulbs, annuals and perennials are planted in the foreground.

The most interesting and fascinating type of pruning is the thinning, shaping and training of flowering trees for special effects, such as a branch or two of dogwood across a window; a double flowering peach or quince espaliered on a white painted wall; or a Japanese line arrangement of white blossoming plum boughs over a blue gate. There is joy in helping nature develop a sensitive structure for a special composition.

test your powers of observation

can you recognize trees by THEIR TWIGS?



( ) Black Ash
( ) Black Haw
( ) Black Locust
( ) Black Walnut
( ) Box Elder
( ) Butternut
( ) Catalpa
( ) Empress Tree
( ) Flowering Dogwood
( ) Green Ash
( ) Hawthorn
( ) Honey Locust
( ) Horsechestnut
( ) Norway Maple
( ) Persimmon
( ) Red Ash
( ) Red Maple
( ) Silver Maple
( ) Sugar Maple
( ) Tulip Tree
( ) Hackberry
( ) White Ash

here's how to RATE YOURSELF . . .

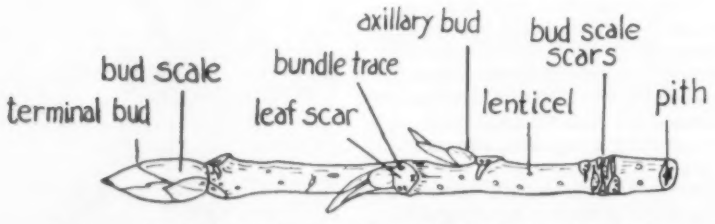
Many persons can identify trees in winter if branch and twig formation can be observed against a neutral background. Each species has its own personality expressed in branch arrangement, in twig structure, in the delicate curve or stolid stiffness of the current season's growth and in general conformation and texture. Such characteristics are as easily retained and associated with the species as are the moods, walk or posture of a cherished friend.

To identify a tree when only a twig is available offers a greater challenge to your powers of observation. The keys to identification lie in the terminal bud, leaf scar, axillary buds, bundle trace and lenticels.

These 22 drawings are a composite conundrum for you to solve. If you get 12 correct, consider yourself better than average. If 16 are right, you are a keen observer; 20, a taxonomist. Beyond that, a nonpareil. *Other trees will be featured in the March and April issues.*

Below the 22 drawings is a list of the trees from which they were made. Identify the drawings by numbering the trees correspondingly. Correct answers are given below. Peek only after you have tried.

The drawings by Professor John W. Thomson, University of Wisconsin, are part of his twig chart, one of many charts and bulletins sold by the National Audubon Society, 1130 Fifth Ave., New York 28, N. Y.



Cottonwood poplar twig showing parts used in identifying winter twigs

1. Catalpa, *Catalpa speciosa*
2. Empress tree, *Paulownia tomentosa*
3. Horsechestnut, *Aesculus hippocastanum*
4. Flowering dogwood, *Cornus florida*
5. Black haw, *Viburnum prunifolium*
6. Box elder, *Acer negundo*
7. Silver maple, *Acer saccharinum*
8. Red maple, *Acer rubrum*
9. Sugar maple, *Acer saccharum*
10. Norway maple, *Acer platanoides*
11. Black ash, *Fraxinus nigra*
12. White ash, *Fraxinus americana*
13. Green ash, *Fraxinus pennsylvanica var. lanceolata*
14. Red ash, *Fraxinus pennsylvanica*
15. Honey locust, *Gleditsia triacanthos*
16. Black locust, *Robinia pseudoacacia*
17. Hawthorn, *Crataegus sp.*
18. Butternut, *Juglans cinerea*
19. Black walnut, *Juglans nigra*
20. Tulip tree, *Liriodendron tulipifera*
21. Persimmon, *Diospyros virginiana*
22. Hackberry, *Celtis occidentalis*

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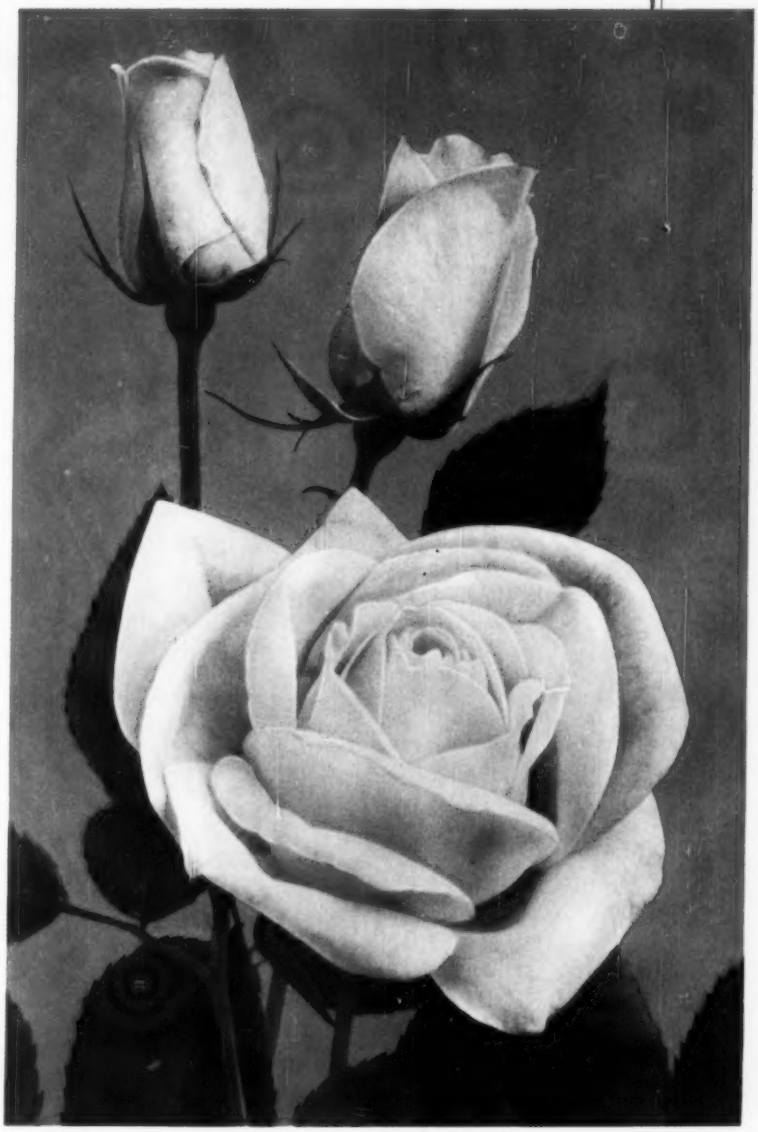

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PLANNING is the secret behind this beautiful spring garden effect—planning and plant know-how, for the best garden design flounders if the plants themselves do not prosper. For a different approach to planning, that of the increasingly popular Japanese school, see the illustrated article by the noted landscape architect Takuma Tono in this issue